



*General Annual Report  
1966*

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The Hospital For Special Surgery  
535 EAST 70th STREET  
NEW YORK, NEW YORK 10021

**1966 One Hundred And Third Annual Report**  
New York Society for the Relief of the  
Ruptured and Crippled  
maintaining the

**HOSPITAL FOR SPECIAL SURGERY**  
and the Margaret M. Caspary Clinic  
The Philip D. Wilson Research Foundation  
535 East 70th Street, New York, N.Y. 10021







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## REPORT OF THE PRESIDENT

The key phrase in describing 1966 in the history of the Hospital for Special Surgery must be "enthusiastic cooperation." I can think of none other that could more accurately reflect the attitude of the members of our Hospital family during the year. And nowhere was it better exemplified than in their reaction to our Second Century Development Fund.

At first the sum involved — \$17 million, far more than we had ever previously asked for — rather staggered all of us. But to date our official family — the Board of Managers, Medical Staff, personnel and Alumni — as well as a number of generous friends have responded by contributing approximately \$2,250,000 toward our goal.

The need to expand the Hospital is a natural result of our 103-year growth in medical skill and responsibilities. A decade ago, when we moved into our new home, we thought we had achieved the ultimate in facilities and staff. Since then the demands in many areas have more than doubled. In last year's report, it was not possible to go into details. Now our needs have been clarified and during the year we were able to announce details of the program. It will include additions to the present Hospital buildings, alterations of the interior to obtain more space for key departments, the construction of two new buildings, and endowment funds.

The structural additions involve the extension of three floors over the front driveway to allow the enlargement of the surgical suite, lecture hall and cafeteria. Also the basement



will be extended under the drive to enlarge our kitchen. The new surgical suite, which will be twice the size of the present one, will have seven operating rooms, a recovery room, intensive care room, sterile work room and doctors' and nurses' lounges.

The top two floors of the research building, now only partially used, will also be extended. Present plans call for putting the clinical laboratories on one of these floors.

Extensive alterations will include tripling the space for the pharmacy and doubling that for the radiology department — both of which are now seriously handicapped by cramped quarters. There will also be more space for our clinics . . . our School of Practical Nursing . . . residents' study and overnight living facilities . . . public school rooms for child patients . . . medical records . . . central stores . . . and a new library for patients. And none of this extra space will outstrip the demands for it. In addition, air-conditioning will be installed on five hospital floors now without it.

Also planned are a residence building with 150 apartments for medical personnel, and a rehabilitation center to be shared with The New York Hospital-Cornell Medical Center and Burke Rehabilitation Center.

The endowment phase of the program includes two vital areas. One is postgraduate education for a number of students from our School of Practical Nursing. After two years' training, they will return to us as qualified registered nurses. This program is, so far as we know, a pioneering step — the only one of its kind in any hospital. The nationwide shortage of nurses has, so far, defied all conventional solutions.

We believe that if our program is successful, as it should be, it may well start a trend in hospitals throughout the country.

At the same time, we are seeking endowment for a full-time staff for the department of rheumatic diseases. This department has for years made vital contributions in patient care with a part-time staff. With increased personnel, it can reach its full potential.

HSS, other institutions affiliated with The New York Hospital-Cornell Medical Center, and the Center are now working with IBM engineers to determine the feasibility of creating a joint computer system, aimed at further improving patient care and permitting more effective medical research and teaching. The areas to be explored include patient care, patient monitoring, records maintenance, hospital administration and assistance to physicians in decisions concerning diagnosis and treatment. The system could be one of the most comprehensive in any medical community.

In summing up 1966 and our hopes for the future, I can think of no words better than those of my distinguished predecessor, Samuel Sloan Duryee: "The Hospital must always strive to render the best service possible. There is no place for complacency or mediocrity."

Respectfully submitted,

*Philip Bastedo*

Philip Bastedo  
President



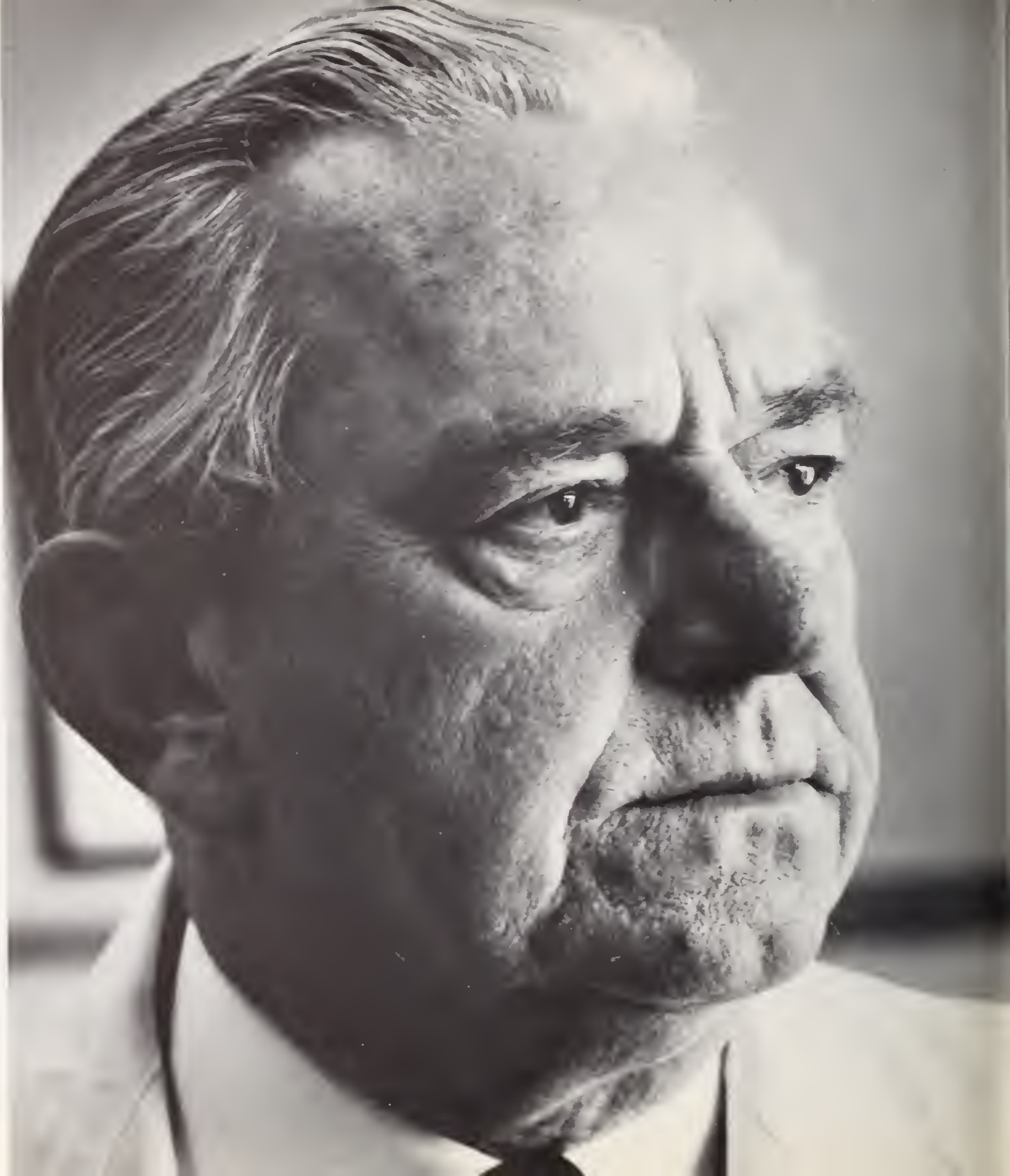
## REPORT OF THE SURGEON-IN-CHIEF

An extraordinary sense of progress characterized 1966 for The Hospital for Special Surgery. Equipment which several years ago would have probably existed only in the minds of science fiction writers was installed, data processing systems were set up to aid in evaluation of different diagnoses and conditions, and complex research projects were carried out to improve the determination of diagnoses.

To many this may sound as though The Hospital for Special Surgery has entered an era of automation. Nothing could be further from the minds of those employing these new techniques which facilitate procedures to give better care to each patient. Furthermore, there was closer collaboration among the services to supply more integrated and less fragmented patient management. A good example of this would be the team approach used by the doctors of the orthopedic staff and those on the staff of the Rheumatic Disease Section. Or in the way the newly established Scoliosis Cardio-Pulmonary team operates, utilizing specialists from both The New York Hospital and our institution.

Close cooperation also exists between the clinical and research staffs. Although much of the research carried on has the long-range aim of adding to man's knowledge with the hope of correlating the data collected about diseases with cures or prevention, there have also been immediate benefits.

Integration of the medical and social aspects of treatment was also stressed. To discharge





an orthopedic or arthritic patient from the hospital without attending to his social or emotional problems is to discharge a half-treated patient. Therefore, the physiotherapists, social workers, nurses, doctors, and the psychiatrist joined this year to establish health teams which meet once a week to coordinate patient activities. On another level of medical-social cooperation, Dr. Harlan Amstutz, orthopedic surgeon, and Dr. James Brown, psychiatrist, started a retrospective study of congenital anomalies.

Not only is there cooperation among our different departments but relations with other members of the Cornell Medical Community (The New York Hospital, Memorial Hospital for Cancer and Allied Diseases, and Cornell University Medical College) remain extremely good. The Affiliation Committee, composed of the Professor of Surgery, the Professor of Medicine, the Dean of the School of Medicine, the Director of the Center, and the Surgeon-in-Chief, the Director of the Rheumatic Diseases Section and the Director of Research from The Hospital for Special Surgery, meets regularly each month to discuss common problems. We also take an active part in the Clinical Sciences Faculty Council, the Coordinating Group of the Cornell Medical Community and many other activities.

In this age of Medicare and Medicaid, The Hospital for Special Surgery continues to improve the quality not only of patient care, but also resident training. By enlarging our already excellent training program, we are able to provide the communities of this country with well trained orthopedic surgeons as well as our academic institutions with superior

teachers and department heads. We are constantly working in many ways to maintain high standards of training. The Radiology Department has adopted closed-circuit television to teach residents; the Board of Managers has voted to increase house staff salaries to ease the financial stress of living in the metropolitan area; and department heads constantly promote intermingling among disciplines.

Doctors George Griffin, Alan Pavel, Donald Stahl and Allan Dunn completed their residency training program during the year. Two foreign doctors finished one-year fellowships and returned to their countries; they are Dr. Dah-jung Yang, Taiwan, and Dr. Kazuhiro Suzuki, Japan. Dr. Francis Slowick terminated his fellowship to continue his orthopedic residency at the Albany Medical Center Hospital. After two years as an orthopedic fellow, Dr. Eugene Lance is spending one year in London with Dr. P. B. Medawar, Nobel Prize Laureate, conducting research on transplants. We are anticipating his return to our staff in September 1967.

Dr. David Levine, a former resident, was appointed Assistant Attending Orthopedic Surgeon and Doctors Richard Stark and Paul Flicker joined the Cerebral Palsy Service as Surgeons to the Out-Patient Department.

Patient statistics were high again this year. If they did not reach the peak achieved last year, Medicare provides the answer. Now that our elderly patients can afford private doctors, fewer are seen in the clinics. However, there were still 43,968 clinic visits made in 1966. Hospital admissions totaled 3,021, which break down into 1,803 private orthopedic cases, 447 adult orthopedic service cases, 428 children's

orthopedic service patients, 253 private rheumatic disease patients and 90 rheumatic diseases service patients.

Physically the Hospital underwent many changes: the sound of hammers and drills never ceased as elevators were converted from manual to automatic, walls were knocked out, and offices were built in areas that had once been empty halls. In other words, every last inch within the existing building is being transformed into work space.

Construction will begin in 1967 on four floors over and under the driveway in front of the hospital. The basement floor will be used to enlarge the kitchens, and the second floor will have a new conference room, seating 300 and containing a projection booth and modern electronic controls. A new cafeteria will be installed on the third floor and the fourth floor will house four much needed, up-to-date, large operating rooms, bringing the total number of rooms to seven. The word "large" should be emphasized because modern orthopedic operations require numerous pieces of equipment, many of them extremely large and bulky.

## SPECIAL EVENTS

Five Traveling Orthopedic Fellows from the British Commonwealth (four from England and one from Australia) visited us in April. Special rounds and talks were given for them.

Doctor Victor McKusick, Professor of Medicine at Johns Hopkins School of Medicine, acted as the Arthritis Foundation Visiting Professor at Cornell University Medical College. While at the Center, he delivered several talks at our Hospital and attended rounds.

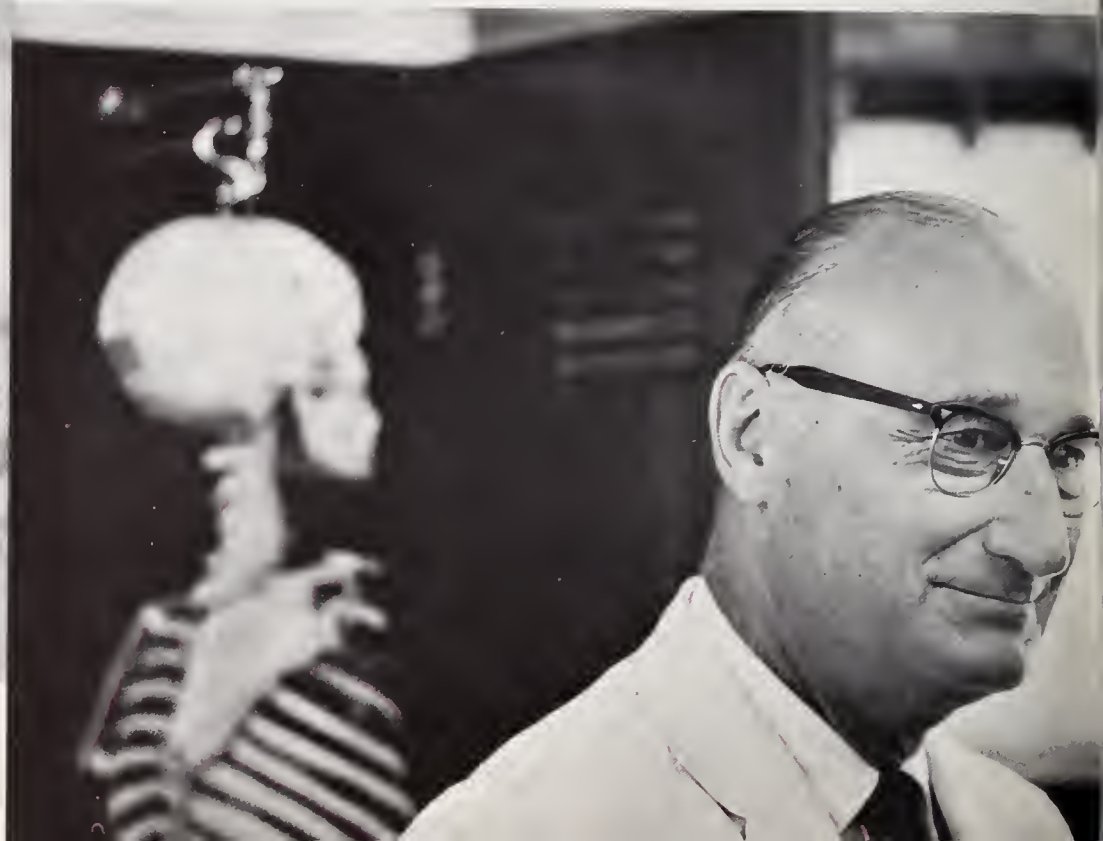


## HSS HONORS

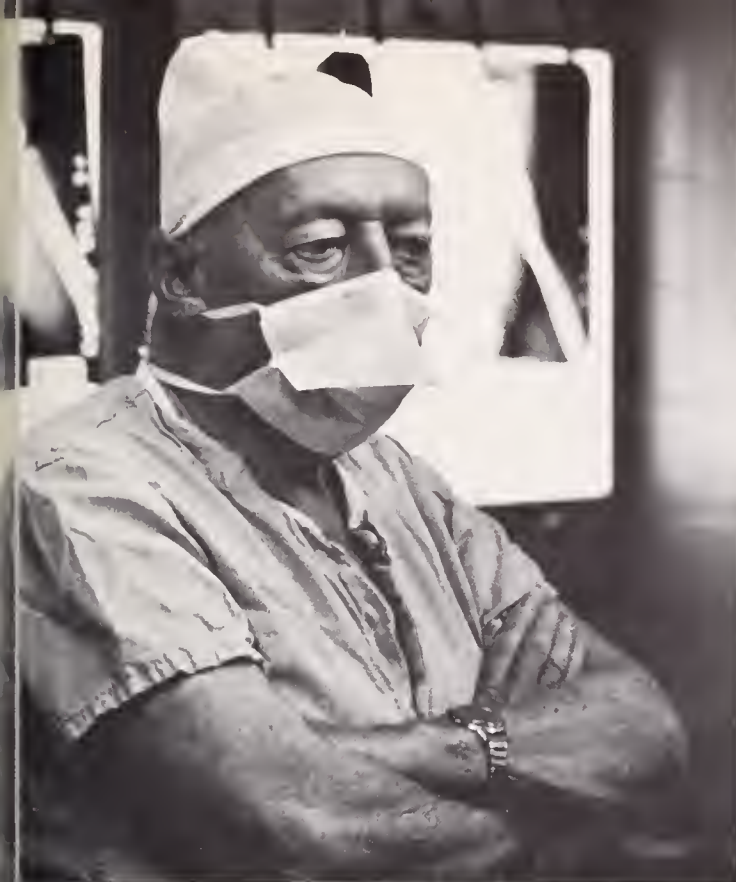
In 1966 several members of the HSS medical staff were singled out for recognition.

▶ Dr. Lee Ramsay Straub was named president-elect of the American Orthopedic Association—the tenth HSS alumnus to head the group

▶ Dr. Richard H. Freyberg received the Floyd B. Odium Award from The Arthritis Foundation for “outstanding services in the fight against arthritis”







W. Eugene Smith



▲ Dr. Robert C. Mellors' scientific paper was one of three cited by The Arthritis Foundation as "news of progress in arthritis research"

▲ Dr. Philip D. Wilson, Sr. received an honorary professorship of surgery of the University of Paris—the only American orthopedic surgeon ever so honored



Dr. Robert L. Fisher, a resident, received the national Kappa Delta award from the American Academy of Orthopedic Surgeons for his paper on scoliosis ▲



Of the hundred or so visiting doctors who made a point of stopping at the Hospital during their travels, perhaps two could be singled out for the excellent talks they gave here. Dr. Charles Lack from the Royal National Orthopedic Hospital in London spoke on "Experimental Studies in Arthritis," and Dr. W. J. W. Sharrard of the Sheffield Royal Infirmary conducted a conference on the "Management of Spina Bifida and Other Paralytic Disorders."

The Evelyn Sharp Laboratories of Nuclear Medicine, on the fifth floor of the Research Building, were dedicated in December.

Two members of the staff received signal honors: Dr. Lee Ramsay Straub was elected President of the American Orthopedic Association and Dr. R. H. Freyberg received the Floyd B. Odum Award for contributions to the New York Chapter of The Arthritis Foundation.

As usual, the highlight of the year was the annual alumni meeting. Dr. H. Relton McCarroll from Washington University, St. Louis, acted as Surgeon-in-Chief pro tempore during the meeting and delivered the Philip D. Wilson Orthopedic Lecture on "Aneurysmal Bone Cysts and Their Clinical Manifestations." Dr. McCarroll also served as moderator for a panel discussion on bone tumors. The panel included Dr. Mark Coventry, head of the Orthopedic Section at Mayo Clinic, Dr. Ernest Aegerter, Professor of Pathology at Temple University, Dr. Theodore Miller, Director of Bone Tumor Service at Memorial Hospital, and our own Dr. R. H. Freiberger, Director of Radiology.

On behalf of the professional staff, your Surgeon-in-Chief wishes to express his appreciation for the fine cooperation, the understanding



of many of our problems, and the good hard work done in committee by each of you. Your professional staff will continue to provide the best possible care for our patients, keep up the high caliber of our research, and still make teaching a paramount part of our medical lives.

## CLINICS

**Amputee Clinic (Dr. Harlan Amstutz):** This year the staff supervised the fitting of 61 new prostheses: 31 for newly amputated patients and 30 for patients who previously had prostheses fitted elsewhere. Revisits totaled 410, bringing the combined total to 471, a substantial increase over the 342 visits in 1965. Generally, amputee patients sought the advice of our staff when their prosthetic problems could not be solved by a minor adjustment. Frequently a new prosthesis was required. Juvenile amputees were encouraged to attend the clinic on a regular basis in order to deal with the problems that growth presents.

The etiologic factors resulting in amputation for our patient population in 1966 were: trauma, 40 percent; vascular, 28 percent; congenital, 15 percent; tumor, 11 percent; and sepsis and miscellaneous causes, 6 percent. The ratio of lower extremity to upper extremity amputees remains six to one with an almost equal number of below- and above-knee amputees. In addition, five hip disarticulations and three hemipelvectomy patients were fitted or assisted. The upper extremity amputees were also about equally divided above and below the elbow.

Three patients had successful application of post-operative fitting immediately following

amputation and one obtained his permanent limb within three weeks. We are encouraged by the initial success of this form of treatment with its attendant advantages of stump healing and early ambulation resulting in a better psychological response by the patient.

**Birth Defects Consultation Clinic (Dr. William Cooper):** This clinic provides comprehensive orthopedic consultation and treatment to patients from the Birth Defects Program of The New York Hospital-Cornell Medical Center. Sessions are conducted weekly on Wednesday mornings with five patients generally scheduled for evaluation. In addition to New York Hospital patients, a significant number of referrals was received from various health agencies in the community. Meningomyelocele was the most frequent diagnosis in this group of patients and a remarkable assortment of unusual congenital anomalies accounted for the rest. During 1966, sixteen patients were admitted for surgical procedures.

**Cerebral Palsy Clinic (Dr. William Cooper):** Activities of this service include regular clinics; a monthly case conference for residents and staff; a weekly group program for children of nursery school age; and a cerebral palsy consultation service for private patients. An upper extremity clinic is also held once a month with the cooperation of Dr. Allan Inglis and Dr. Eugene Lance.

The clinic conducted 1,246 medical examinations during the year and 84 operations were performed.

The Cerebral Palsy Service continued to maintain medical supervision of: (1) The Cerebral Palsy Center of Nassau County, a day-care pro-

gram with an active case load of 1,000 patients; and (2) HC20 classes at P. S. No. 199 (270 West 70th Street), a combined educational and medical program for children with severe orthopedic handicaps.

**Chest Clinic (Dr. John Pool):** Dr. Pool operates this clinic once a month on the second Friday morning. Approximately 100 patients were seen this year; the majority of them were diagnosed as having pectus excavatum (funnel breast).

**Clubfoot Clinic (Dr. Alexander Hersh):** The year 1966 saw the institution of an in-patient clubfoot service with the assignment for a two-month period of a senior resident who then followed on the Children's Service. One morning a week is set aside for our service in the operating room and two operations are scheduled. The large volume of operative cases has afforded the residents a well-balanced surgical program in clubfoot problems.

Hospital admissions (41) and operations (60) continue to rise, reflecting the increasing clinic referrals: 81 new patients were seen in clinic in 1966 compared with 48 in 1965.

**Fracture Clinic:** This clinic was run by our two residents on the Fracture Service at The New York Hospital. Doctor John Doherty and Doctor Howard Balensweig participated in the clinics and in the teaching of medical students.

**Hand Clinic (Dr. Lee Ramsay Struab):** The Hand Service continued at an active pace during 1966. Clinics were held on Monday and Thursday mornings and conferences each Thursday morning. All told, there were 1,745 out-patient visits to the clinics. The service was staffed by Doctors Campbell, Inglis and Eaton; Doctors

Conway, Dorsey and Smith acted as our plastic surgery consultants. Dr. C. Ranawat was the fellow in Hand Surgery this year and orthopedic and plastic surgery residents rotated through the service.

A total of 393 operations was performed, of which 55 were on children.

**Hemophilia Clinic (Dr. William D. Arnold):** The Hemophilia Clinic continued to function as a referral area for patients suffering from bleeding disorders which caused orthopedic problems. In a large proportion of cases, these were different forms of joint contractures and were handled by a variety of non-surgical measures. During the year we worked intensively and in close collaboration with The New York Hospital Department of Pediatrics and the pediatric hematology section on a rather small group of patients. We appear to be on the threshold of striking advances in the care of hemophilia, not only in the treatment of acute bleeding episodes but also in the prevention of the severe deformities which are a hallmark of this disease. Within a short time, it is expected that the newer plasma fractions will be widely available and perhaps prophylactic as well as therapeutic treatment of hemophilia will be carried out.

Even now, with the use of more efficient plasma fraction than was available formerly, significant improvement in the prevention of joint deformities has been noted. In addition to weekly clinics, emergency consultation was provided.

**Hip Clinic (Dr. Philip Wilson, Jr.):** There were 905 out-patient visits to the Hip Clinic in 1966 and 134 patients were operated on for hip conditions.

A questionnaire designed by Dr. Robert Goldstone to sort out and analyze information gained from patients with hip problems has so far been filled out for 170 patients. The answers are submitted to an IBM computer for sorting analysis.

Several new projects were initiated this year. Dr. Jesse Dickson began a retrospective study of patients undergoing osteotomy for idiopathic osteoarthritis of the hips. Collaborating with Dr. Saville, he also initiated research on the relationship of body weight to idiopathic and secondary osteoarthritis of the hip.

A study of the hips of newborn children for instability and dislocation was started. Doctors David Levine and Wan Lim and the Hip Clinic Fellows made regular rounds in The Lying-In Hospital nurseries twice a week and about 2,000 infants were examined with the discovery of "abnormal" mobility in 20 cases.

**Knee Clinic (Dr. Göran Bauer):** A Knee Clinic was organized to facilitate a prospective study of osteoarthritis of the knee. All patients were interviewed and examined in conformance with a plan for data storage and retrieval. 170 patients were seen and approximately 700 visits made to the clinic. The most common operations were tibial osteotomy and meniscectomy. In several patients cineradiography and radioisotope studies were performed.

**Leg Equalization Clinic (Dr. Harlan Amstutz):** Sixty-five patients were evaluated in the Leg Equalization Clinic in its second year. Twenty-three of the initial 35 patients seen last year were re-examined. Leg length discrepancy due to poliomyelitis and congenital deficiencies contributed one third each to the etiologic

classifications while the remaining one third was secondary to hip disease, scoliosis, tumor and fracture. In addition to supervising the more conventional operative means of leg equalization (epiphysiodesis and femoral shortening), two tibial and one femoral lengthenings were performed.

**Metabolic Bone Disease Clinic (Dr. Paul Saville):** Once again clinic attendance increased; there were 420 visits and 67 new referrals.

The service is currently carrying out studies in six areas of research on bone metabolism in both humans and animals. Dr. Leonhard Korngold, Immunologist, and Doctors Olsson and Krook, from the Laboratory of Comparative Orthopedics, are working with Dr. Saville and his staff on several of these projects.

Work in the Biomechanics Laboratory, a subdivision of the Metabolic Bone Disease Service, proceeded along two lines: (1) further development and application of bone strength measurements, particularly in relation to calcium metabolism studies; and (2) bioengineering studies on the friction and wear characteristics of materials which seem promising for use in prosthetic devices.

**Neuromuscular Diagnostic Clinic (Dr. Joseph Moldaver):** The Neuromuscular Diagnostic Service remained active in diagnostic work-up as well as in research. Since many orthopedic problems are complicated by neuromuscular involvement, neurological evaluation and electro-diagnostic work-up is of great help to the orthopedic surgeons in determining diagnoses. Other doctors who take frequent advantage of the Neuromuscular Diagnostic Clinic are the physicians from the Hand Clinic and the Rheumatic Diseases Clinic.



Patients from other hospitals — among them the U.S. Naval Hospital, St. Albans — were referred for electro-diagnostic work-up.

**Scoliosis Clinic (Dr. John Doherty):** The Scoliosis Service became a separate unit and was integrated as an equal member in the rotations for residents in our training program. A senior and a junior resident spend two months of their respective years caring for the children admitted to the Hospital with the diagnosis of scoliosis.

Dr. David Levine, after serving on the respiratory section of Rancho Los Amigos County Hospital in Downey, California, returned to assist in organizing the cardio-pulmonary section of the service which cares for patients with limited function of heart and lungs associated with this deformity. Besides the orthopedic surgeons, the cardio-pulmonary team consists of consultants in pulmonary diseases (Dr. James Smith, The New York Hospital), cardiology, (Dr. Irwin Nydick), pediatrics (Dr. Wan Ngo Lim), and anesthesia (Dr. Anita Goulet).

The out-patient clinic continued active with 950 patients; of them, 88 were new. On the in-patient service, 58 patients underwent surgical procedures for the correction of scoliosis and the Milwaukee brace was prescribed for 37. The service benefited from the presence of Jacob Lifton, D.D.S., an orthodontist, who evaluated changes in the maxillofacial components and supervised measures for prevention and treatment of dental malocclusion.

A special research fund was established for advancement of new ideas and better understanding of the cause, prevention and treat-

ment of patients with scoliosis. The fund was dedicated to John R. Cobb, M.D., whose pioneer efforts in this field brought much fame and admiration to the "Ruptured and Crippled."

## DEPARTMENTS

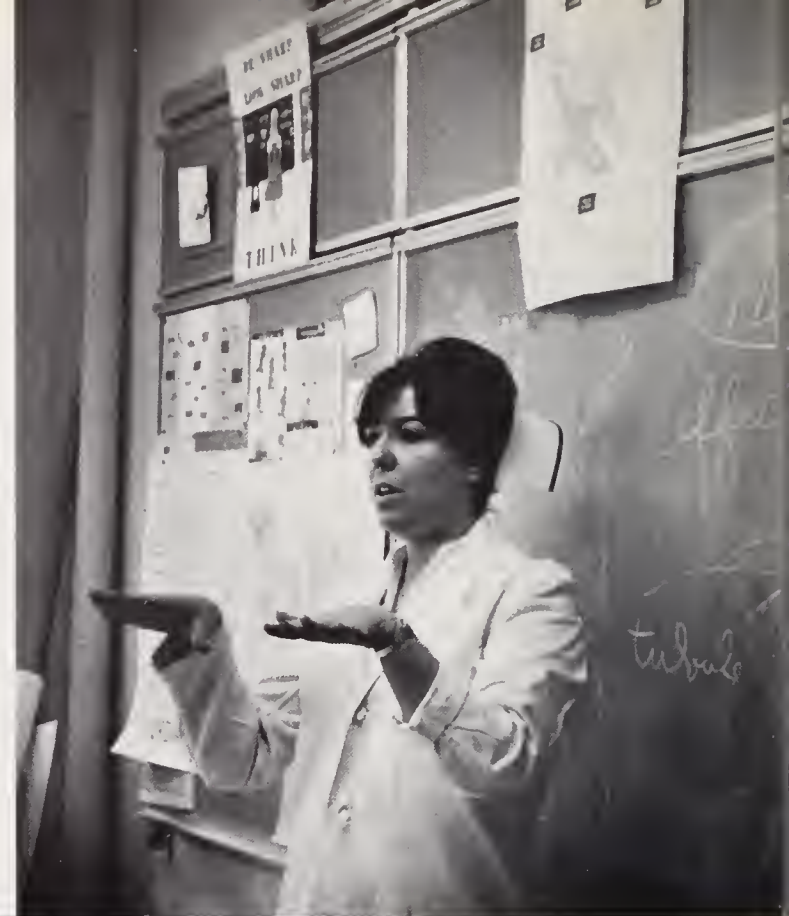
**Department of Anesthesia (Dr. Charles Burstein):** During 1966, 2,231 cases received 1,823 general anesthetics, 245 regional blocks, 19 spinals and 144 local anesthetics.

Dr. Stephanie Lichtenstein joined the staff as Assistant Attending Anesthesiologist and two other physician anesthesiologists received courtesy privileges. Further, residents from The New York Hospital Department of Anesthesiology served three-month rotations in our operating rooms. These additions to the staff enabled the department to maintain the highest standards in anesthesia.

**Department of Laboratories (Dr. Robert Mellors):** The number of laboratory examinations reached a new high (102,514), reflecting a more than 10 percent annual increase and a 136 percent total increase in work performance during the last nine years. Hematology, bacteriology, chemistry, serology (including blood banking techniques), and electrocardiography contribute mainly to this expanded activity.

The Microbiology Laboratory processed 5,665 specimens for clinical studies, epidemiology, infection control and research problems. This presents a 17 percent increase over the 1965 total. Antibiotic sensitivity tests were performed on 1,617 bacterial isolates of possible pathogenic significance.





## TEACHING

Residents and fellows [from HSS and other Center hospitals] attend weekly Surgeon-in-Chief's Grand Rounds

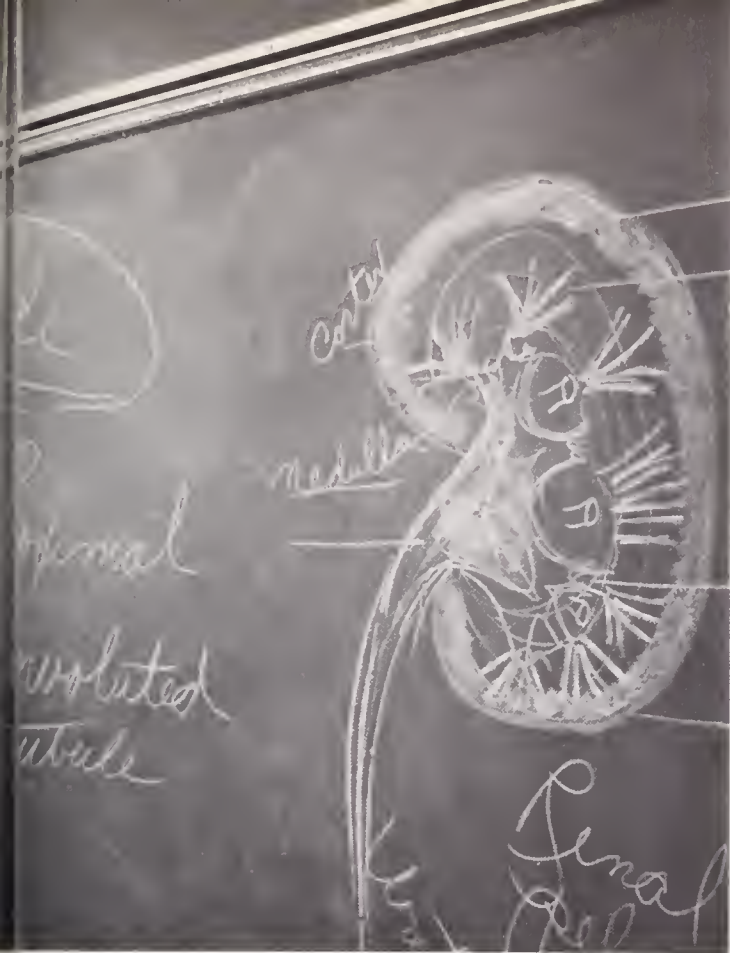
A pediatrician instructs two of the 335 Cornell Medical College students trained at HSS



The School of Practical Nursing provides 95 per cent of the LPNs working at HSS

Residents make rounds with surgeons. HSS has third largest orthopedic residency in the U.S.





In the orthopedic clinic a resident looks on while a surgeon examines a two-year-old



**Department of Physical Medicine and Rehabilitation (Dr. Anna Kara):** The department experienced an increase in number of treatments over 1965 and an expansion of services initiated during that year. Physical therapists gave 36,508 treatments and occupational therapists, 2,361 treatments. Patients at the James Ewing Hospital received 1,763 treatments, and 387 were given at Memorial Hospital. Referrals for bedside treatments increased and a full-time therapist was assigned to this service.

Miss Florence Winter, Chief Physical Therapist, retired in September, and Miss Judith Kurtz took her place.

Dr. Olav Austlid, who had been Associate Director of this department since 1953, died unexpectedly.

**Department of Radiology (Dr. Robert Freiburger):** Plans for expansion of the department were drawn up and two additional examining rooms will be added in 1967. This enlargement will improve the service to an ever-increasing number of patients. One of the fluoroscopic rooms was re-equipped with a new table and an image intensifying fluoroscope with television viewing, making it possible for several people to observe the fluoroscopic image; this is an important teaching aid. An X-Omat film processing machine, which furnishes dry, completely processed films in 10 seconds, was installed.

**Department of Rheumatic Diseases (Dr. Richard Freyberg):** Clinics for out-patient care of patients with rheumatic diseases were held four mornings weekly. Each clinic was preceded or followed by a conference held primarily to teach medical students and the graduate clinical

staff and to allow free exchange of ideas among the senior professional staff concerning diagnostic and therapeutic considerations of practical importance. The weekly rheumatologic conference demonstrated the significance of "team" management of patients with chronic, crippling forms of arthritis, so that plans are now being made for expansion of this closely coordinated activity to a larger segment of clinic patients and hospitalized patients needing rehabilitation.

Increasing requests for consultation have led to the establishment of bi-weekly "Consultation Rounds" in which the medical house staff, Rheumatic Disease Fellows and members of the senior medical staff see all the consultations. This not only provides more expert consultation but also affords teaching and learning opportunities of value that would not otherwise be realized.

Dr. Edgar Desser, having completed his fellowship, became physician to the out-patient department. Dr. Martin Gardy also joined the staff as Full-time Assistant Attending Physician.

**Orthopedic-Psychiatric Liaison Service (Dr. James Brown):** When the Liaison Service was initiated in 1965, consultations were limited mainly to in-patients. This year the psychiatrist expanded his service to include out-patients whose care was predominantly ambulatory as well as out-patients for whom hospitalization was contemplated. In addition to providing recommendations for treatment of specific psychiatric illnesses, the service was particularly interested in helping medical and paramedical personnel better understand the implications of a patient's emotional problems, thereby expediting his medical and surgical care.







The psychiatrist is also helping Dr. Harlan Amstutz in a retrospective study of congenital anomalies of the lower extremities.

**Pediatric Division (Dr. Wan Ngo Lim):** A combined orthopedic-pediatric study for early detection and treatment of congenital dislocation of the hip in the newborn nurseries was started; it is progressing satisfactorily and yielding very helpful data.

Pediatric teaching rounds for third year medical students were initiated on the Children's Service; they provide opportunities for students to study the impairment and interference in normal growth and development caused by skeletal, neuromuscular or rheumatic diseases, trauma, or birth defects. These rounds also give the students the chance to observe restoration of the impaired functions and improvement in physical defects through reconstructive orthopedic surgery.

The continuing Hospital for Special Surgery-The New York Hospital Pediatric Arthritis Clinic not only gives care and treatment but strives to provide effective follow-up for children with juvenile rheumatoid arthritis.

**Undergraduate Education (Dr. Allan Inglis):** Participation in the medical education of Cornell University medical students continued to be a stimulating and exciting responsibility of our professional staff. Twenty-three of our physicians are on the lecture schedule and will deliver one or more lectures each year.

A major change in the curriculum for these students will begin next year. Then senior students will take all their courses as electives. The current elective course in orthopedic sur-

gery is extremely popular with them, and the change in the curriculum will result in more students taking the opportunity to study in our department.

**Veterans Administration Hospital Resident Training Program (Dr. Bernard Jacobs):** Despite a temporary reduction of bed capacity, 1966 was quite an active year: 3,334 out-patients were examined, 287 were seen in the monthly follow-up clinic for special-interest cases; and 627 were admitted to the hospital; 324 operations were performed; and 405 consultations from other services in the hospital were carried out.

Doctors Thompson, Rizzo, Eichenholtz, and Fielding continued to attend the weekly conferences and provide assistance when needed. In addition, Dr. Straub helped with special hand problems. In the past year Dr. Patterson was formally appointed a Consultant to our service and has already made himself available to us.

At the annual Residents' Day, Dr. Alan Pavel was awarded a prize for the best paper by a resident.

Respectfully submitted,

*Robert Lee Patterson Jr.*

Robert Lee Patterson, Jr., M.D.  
Surgeon-in-Chief

# Rheumatic Diseases

A familiar scene in the rheumatic disease clinic: a cane and crippled fingers



A physician and a fellow conduct an examination in the rheumatic disease clinic

A patient points to the area of pain while a surgeon tests the fingers for fluid in the joints



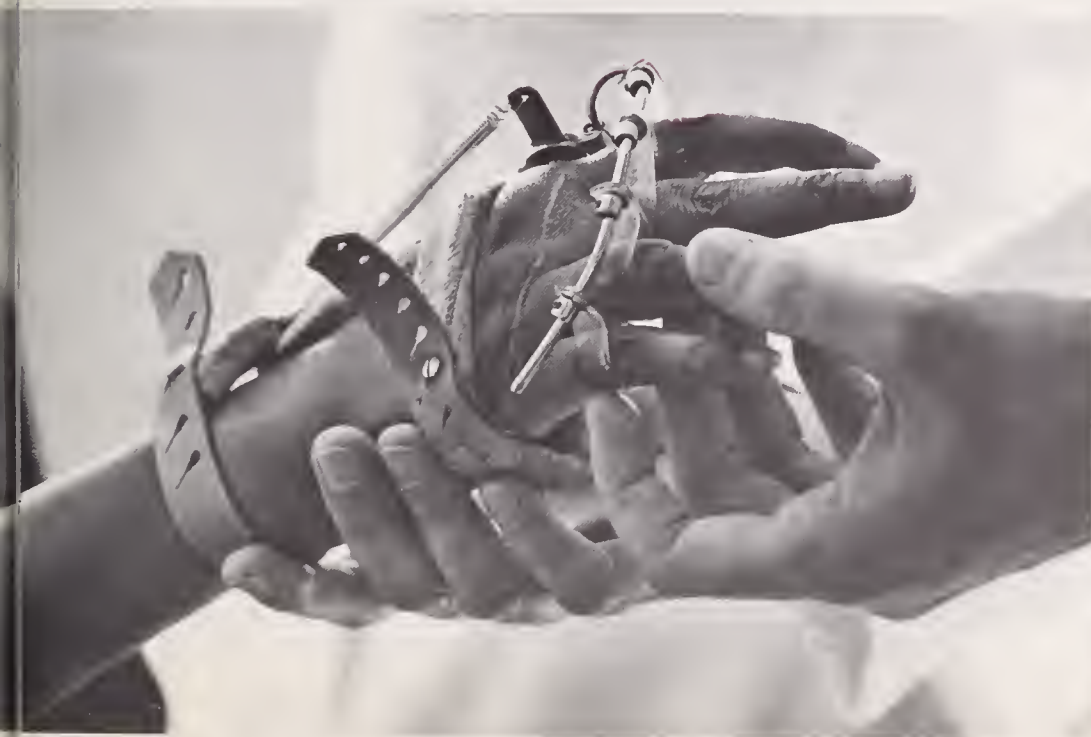




In the hand clinic a finger is checked postoperatively for return of stability and motion ▶

▶ At weekly conference rheumatologists and orthopedists develop team management of arthritic patients

A splint used for training muscles weakened by rheumatoid arthritis is applied after surgery ▼



## REPORT OF THE DIRECTOR OF RESEARCH

During 1966 the entire five floors of the laboratory wing became occupied by identifiable activities as projected in the Annual Report for 1965. Summaries by individual investigators of research projects active during the past year constitute the body of this report.

The people working in the research wing embrace a wide range of interests, reflecting the place of the musculoskeletal system in today's scientific community. The extremes of this range may be identified by such pairs of designations as these:

Surgeons	—	Internists
Clinicians	—	Basic Scientists
Physicians	—	Veterinarians
Orthopedists	—	Rheumatologists
Engineers	—	Chemists
Physiatrists	—	Dentists

The diversity of background and objectives characterizing the environment at our Institution and which is symbolized by the accompanying Venn diagram is important not only for our research activities but also for our teaching. In a stiffening competition for talent, our future will depend on our ability to catch the imagination of the young. We have become increasingly active in this area over the last few years.

In 1966 the research training program was organized on four levels: (1) a summer program for high school students; (2) a summer program for pre-med and medical students;

Robert Goldstein





(3) an elective program for orthopedic residents; and (4) a one- to three-year program for orthopedic fellows.

Eleven high school students spent six weeks here under the direction of Dr. Melvin Schwartz in a program sponsored by the National Science Foundation. Most laboratories in the research wing accepted one or more students for on-the-job training in research techniques. Regular lectures and seminars were held daily. The summer program for pre-med and medical students consisted of eleven individuals, five of them from Cornell University Medical College. Most worked here for three months; some came for the second or even the third summer in a row, and some have worked here evenings and weekends during the academic year in Dr. Posner's and Dr. Saville's laboratories. Individuals with this introduction to orthopedics and rheumatology will eventually have another image of these specialties than will those students who come here only in the course of their regular clinical training in the third year of medical school. In this context, it is notable that Doctors Bauer, Eanes, Huang, Korngold, Mellors, Posner and Weber have lectured to the first and second year classes of Cornell medical students.

In the research program for orthopedic residents we experimented for the first time with starting two individuals on full-time research one year prior to their clinical training as residents in orthopedics. This approach has been used for several years by several other orthopedic programs, and probably will eventually become the rule rather than the exception. Projects tackled by orthopedic residents

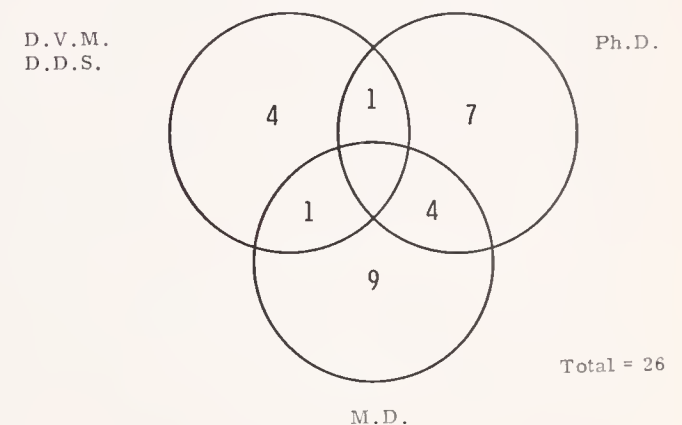
included experimental studies of collagen metabolism, experimental studies of osteoarthritis of the knee and clinical studies of osteoarthritis and of aseptic necrosis of the head of the femur.

The research program for orthopedic fellows is geared to individuals who have completed their residency training in orthopedics. During the last year this program included Dr. Eugene Lance from our own residency program, Dr. Arsen Pankovich and Dr. Melvin Moss from Chicago University Medical School and Dr. Johannes Poigenfürst from Dr. Böhler's department in Vienna, Austria. Dr. Lance, who previously spent two years here in research on immunology and transplantation problems, spent the last year working in London, England, in the laboratory of the Nobel Prize Laureate, Dr. P. B. Medawar, Dr. Pankovich worked in Dr. Korngold's laboratory on the immunological properties of intervertebral discs and clas-

sification of alkaline phosphatases. Dr. Milton Moss worked with Dr. Posner on the ultrastructure of bone mineral under experimental conditions. Dr. Poigenfürst divided his time between the Memorial Hospital Bone Tumor Service, working on problems in the clinical management of patients with fracture of the neck of the femur caused by cancer metastases, and our own Biomechanical Laboratory for studies in osteoarthritis of the knee.

Any teaching program shares with research the difficulties in defining valid end points for evaluation of quality. However, at both ends of the teaching program we can report some visible effects. Three of our summer students have been accepted into medical school, two at Cornell and one at Western Reserve. Three former fellows have received appointments in academic orthopedics: Dr. Duncan McPherson in a combined clinical, teaching and research position at the University of British Columbia

This diagram is shown to demonstrate the diversity of the graduate research staff in terms of formal education. The three intersecting sets in this Venn diagram represent degrees obtained from graduate, medical, veterinary and dental schools. In addition to the 26 individuals with higher degrees analyzed here, the research staff includes numerous individuals with college degrees and highly specialized training in areas such as electronics, chemistry, photography, histology, etc.



in Vancouver, Dr. Arsen Pankovich as Assistant Professor and head of Orthopedic Research at the University of Chicago Medical School, and Dr. Robert Fisher as Director of Research at the Newington Crippled Children's Hospital at New Haven, Connecticut.

The basic aim of research and teaching is to change the environment by innovation of the body of knowledge. This is a slow process, but I feel we have every reason to believe that our institution will eventually fulfill its responsibilities in these areas as it has done in the application of knowledge: All three branches of academic medicine — clinical care, research and teaching — have a common purpose: to give superior care to the sick.

#### A DIVISION OF RHEUMATIC DISEASES —

Richard H. Freyberg, M.D.

Investigation of a wide variety of problems relating to disorders of connective tissue has been pursued by many physicians on the staff of the Department of Rheumatic Diseases. The basic research of Dr. Sidney Rothbard and Dr. Robert Watson into the nature of collagen, its antigenic properties and the role that abnormalities of collagen play in various rheumatic disorders continues. With Dr. L. Korngold, Dr. Isaac Abadi has begun the study of certain immunologic abnormalities in patients who have "overlap (rheumatic) syndromes" — mixtures of the features of two or more usually separately existing, different (but closely related) clinical syndromes. Dr. José Granda has

begun a study of the enzymes liberated by lysosomes in fluid in inflamed joints, hoping to learn whether differences characterize different diffuse connective tissue diseases, and whether various suppressive treatments for rheumatoid arthritis alter the enzyme production and liberation by lysosomes, and whether such differences are important in effectiveness of such therapy. Dr. Edgar Desser is working with Dr. Granda in this study. Dr. Harry Bienenstock has been collaborating with Dr. André Kiprick of the Institute of Muscle Disease in a study of the urinary excretion of the peptide, prolylhydroxyproline, a major metabolite of collagen containing hydroxyproline, in patients with rheumatic diseases, bone disorders and certain neoplasms.

Among the more clinical investigations, a team of several of the senior staff and fellows is making a critical evaluation of the therapeutic values of phenylaminotetrazole, a copper chelating agent proposed for the treatment of rheumatoid arthritis. Approximately 35 patients with rheumatoid arthritis in various stages of the disease are being extensively studied while receiving this preparation. Dr. Marcus Rivelis has begun a critical review of patients with ankylosing spondylitis treated by the staff of this institution during the past fifteen years, to assess the accuracy of diagnosis and comparative value of different methods of treatment. A case study of mesenteric arteritis and intestinal infarction in rheumatoid disease has been completed by Doctors Bienenstock, C. K. Minick (NYH) and Rogoff.

W. Eugene Smith





## LABORATORY FOR THE STUDY OF COLLAGEN —

Sidney Rothbard, M.D., and  
Robert F. Watson, M.D.

Although most of the knowledge of the structure and function of collagen has been derived from studies of animal collagens, the study of human collagen is still necessary for the understanding of human disease affecting this important connective tissue protein.

Human collagen obtained from adults can be dissolved only with great difficulty, and collagen must be put into solution to obtain purified preparations. However, the skin of still-born infants provides a readily available source of collagen that is easily dissolved. Purified acid extracts of this human collagen were used as an antigen to immunize rabbits for the production of antibody. By complement fixation and immunofluorescence, this antibody has been shown to be specifically directed to the human collagen fiber and not to any accompanying tissue contaminants.

Earlier studies in this laboratory have shown that when antibodies to collagens from various experimental animals are injected into the circulation of the homologous species, the antibody can be demonstrated by immunofluorescence to be fixed wherever collagen or reticulin is present. Fixation was especially well defined in the renal glomerular and tubular basement membranes. To extend these observations to human tissue, kidneys obtained at autopsy from still-born infants were perfused with antibody to human collagen. Similar antibody fixation was demonstrated by immuno-

fluorescence in the human kidneys. The specificity of the reaction was shown by the absence of reaction with normal rabbit serum, antibody to carp collagen, or anti-human collagen serum absorbed with human collagen.

No evidence was found to indicate that a collagen-like protein in human serum or an antigen common to human erythrocytes and renal glomeruli is a factor in this immunofluorescent reaction.

The use of enzymes provided another approach for showing the specificity of the antigen with which the antibody to human collagen reacts. Perfusion of the kidneys with purified collagenase, before the introduction of the antibody to human collagen, was found to alter the antigen so that antibody could not be demonstrated in the basement membranes by immunofluorescence. Testicular hyaluronidase used in the same way did not affect the immunofluorescent reaction. This perfusion method provides another means for studying antigens in human organs by immunofluorescence.

A report of this work, "Demonstration by Immunofluorescence of the Fixation of Perfused Antibody to Human Collagen in Human Kidney," has been accepted for publication by the Journal of Experimental Medicine.

In acid solutions of collagen, the molecules are known to consist of a triple-stranded helix which can be split by heat or high concentrations of urea or guanidine. When split in this way, the viscosity of the collagen solution is greatly decreased, and it can be incorporated

in Freund adjuvant for rabbit immunization. The antibody titer resulting from such immunization is very much higher than that obtained by the use of the acid extracts of collagen. By complement fixation and the Ouchterlony immunodiffusion methods, we have shown that antibodies to each of these forms of collagen are the same and are directed to a single antigen. The high titer of the antibody now obtainable permits us to reinvestigate whether this antibody will produce injury to collagen in animal tissues.

Earlier studies have shown that, although both the antibody which produces the Masugi nephritis and our antibody to collagen react with renal glomerular basement membranes, these antibodies are different as determined by cross-complement fixation reactions. To further investigate the sites of the antigens with which these antibodies react, studies are under way using the immunofluorescent technique applied directly to tissue sections. The high titer of the antibody to collagen now available makes use of this method possible. Kidney sections are being pretreated with various enzymes which attack different specific antigenic components of the basement membranes. Information obtained from this study may contribute to understanding of the complex structure of epithelial and vascular basement membranes.

The report, in collaboration with Dr. Israel Steinberg of The New York Hospital Department of Radiology, "Angiocardiography in the Diagnosis of Rheumatoid Pericarditis," is in press and will appear in the New York State Medical Journal.

**B. DIVISION OF EXPERIMENTAL  
PATHOLOGY —  
Robert C. Mellors, M.D., Ph.D.**

The division includes laboratories for research in immunopathology (Dr. Mellors), immunology (Dr. Korngold), microbiology (Dr. Kutner), and ultrastructure (Dr. Huang).

**1. LABORATORY OF  
IMMUNOPATHOLOGY —  
Robert C. Mellors, M.D., Ph.D.**

**a. Autoimmune Disease.** Genetic and immunological mechanisms, including autoimmunity, are implicated in the human systemic diseases, including rheumatoid arthritis and systemic lupus erythematosus. As related in previous progress reports, we undertook the study of NZB mice, which with aging regularly develop diseases of this type, with the expectation of exploring an hereditary model, for these mice were then at more than the sixtieth generation of in-breeding. However, at the same time we also considered the possibility, if not probability, that "infectious" heredity in the form of a virus infection might also be involved. Accordingly, in due course and as customary in virus research, we undertook an electron microscopic search for virus particles, as related in Dr. Huang's report, and also prepared cell-free filtrates of NZB mouse tissues. The filtrates were inoculated into young mice, even hybrid mice from a genetically unrelated source. The inoculations, when made in the newborn, did indeed produce in the recipients chronic diseases and immunological changes similar to those of spontaneous occurrence in aging NZB mice.

The implication of these findings for the understanding of comparable human diseases of unknown cause, including the systemic connective-tissue diseases, is that early, especially congenital or neonatal, virus infection can produce an immunological disease-complex, seemingly heritable, with hidden and delayed onset and chronic progressive course.

**b. Electron Microprobe Analysis of Tissues.** Efforts to correlate the microscopic structure and the chemical composition of mineralized tissues were begun in 1963-1964 with the installation of the electron microprobe. Last year's report presented evidence, obtained by microprobe analysis and fractional extraction, that there were at least two mineral components in human trabecular bone: a major component with the Ca/P ratio of hydroxyapatite and an age-dependent minor component with the properties of calcium carbonate. Mr. Todd Solberg is presently undertaking a similar type of analysis of human cortical bone, including structurally older (interstitial) and younger (concentric) lamellar regions.

**2. LABORATORY OF IMMUNOLOGY —  
Leonhard Korngold, Ph.D.**

During the last year, we continued our immunological studies of (1) the immunoglobulins; (2) the protein-polysaccharide complexes of nucleus pulposus and cartilage; and (3) alkaline phosphatase from different organs.

In collaboration with Dr. Madalinski, we investigated the chemical nature and molecular location of some of the antigenic groupings that react with the antisera we developed for the diagnosis of multiple myeloma and macro-

globulinemia of Waldenstrom. Dr. Madalinski completed his fellowship in October and has returned to Warsaw, Poland.

The studies of the protein-polysaccharide complexes and alkaline phosphatase were done in collaboration with Dr. Pankovich. It was shown that the injection of protein-polysaccharide complexes into rabbits could lead to the formation of antibodies that can combine with the rabbit's own protein-polysaccharide complexes *in vitro*, thus providing evidence for the possible autoantigenic nature of these materials.

Methods were also developed to distinguish between alkaline phosphatase from liver, bone, intestine, and other organs; and antisera have been produced against these enzymes.

**3. LABORATORY OF ELECTRON  
MICROSCOPY —  
Chen Ya Huang, Ph.D.**

Viruslike particles were identified in the tissues of NZB/B1 mice, in the thymus, spleen, and kidneys, as well as in the malignant lymphomas. Moreover, these viruslike particles were apparently present in the tissues throughout a major part of the life span of NZB/B1 mice: from birth to 15 months or older. The particles had characteristic ultrastructure: a centrally located electron-dense nucleoid measuring approximately 55 millimicrons in diameter, and a limiting membrane with round or oval shape and overall diameter of about 100 millimicrons. Such particles bear ultrastructural resemblance to the "C" type viruslike particles associated with virus-induced murine leukemias.



#### 4. LABORATORY OF MICROBIOLOGY — Leon J. Kutner, M.D., Ph.D.

The etiology of rheumatoid arthritis is uncertain, but infectious agents have often been suggested as playing a role. In the past two years there have been reports of isolation from synovial tissue or fluid of *Mycoplasma* (PPLO organisms), *Bedsonia* (members of the psittacosis-lymphogranuloma group), and bacteria described as diphtheroids. We have attempted to isolate *Mycoplasma* on artificial media from synovial tissues and fluids from 15 rheumatoid arthritis patients. The *Mycoplasma* are fastidious with strict but poorly understood nutritive and osmotic requirements. Initially, we used media described by Hayflick and later by

Murphy and Bullis, and had no isolates of *Mycoplasma*. Attempted isolations were performed on eleven specimens of synovial tissue and four specimens of synovial fluid from patients with rheumatoid arthritis. Thirty-four specimens of synovial fluid from patients with a variety of inflammatory joint diseases were also studied, but no *Mycoplasma* were isolated from any of these. Now under development are improved isolation methods for *Mycoplasma*.

In connection with the study of the role of the thymus in immunological processes, methods of production and assay of antibodies in tissue culture were perfected. These consisted of growing washed and partly disaggregated cells

from spleen or thymus or mixtures of both taken from mice recently immunized with human erythrocytes, in tubes with commercial tissue culture media. At serial times after culturing, supernatants were examined for new antibody release by a Coombs technique using rabbit anti-mouse gamma globulin serum. It was shown that free antibody was usually not present during the initial three days of spleen cell culture, but appeared at ten days and then slowly disappeared as the cultures deteriorated with age. Antibody was produced both by spleen cells and mixtures of spleen and thymus cell cultures, but thymus cell cultured alone did not produce antibody except once. Further experiments with these techniques are continuing.



## C DIVISION OF ULTRASTRUCTURAL BIOCHEMISTRY —

A. S. Posner, Ph.D.; E. D. Eanes, Ph.D.; J. D. Termine, Ph.D.; J. L. Granda, M.D., Ph.D.; M. J. Moss, M.D.; P. J. Tannenbaum, D.D.S.; J. C. Weber, D.D.S.; I. H. Gillissen, Ph.D.; E. S. Kantner, Ph.D.

The study of the nucleation and growth of hydroxyapatite,  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$ , was continued this year. Combining chemical and x-ray diffraction techniques, the formation of hydroxyapatite from amorphous calcium phosphate and from brushite,  $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ , in aqueous suspension was investigated. The effect of concentration, temperature, pH and the presence of a third phase was studied. Concomitantly, the stabilization of amorphous calcium phosphate in the presence of certain chemical groups (e.g., Mg,  $\text{CO}_3$ , certain proteins) was followed.

The project on the electron spin resonance spectroscopy was expanded this year. In addition to characterizing the structure of amorphous calcium phosphate in its relation to hydroxyapatite, this technique was applied to the study of the bonding of bone mineral to collagen. This work is being done in collaboration with Dr. I. Pullman of the Physics Department of Sloan-Kettering Institute. In conjunction with this project we have been working on methods of preparing large, single crystals of standard apatites of various chemical stoichiometry.

The effect of the following dietary deficiencies on the crystal size and percent crystallinity of bone mineral in experimental animals was

investigated: Vitamin D, calcium, phosphorus, manganese, zinc and choline. In conjunction with this study an investigation was made of the effect of sample handling (air drying, lyophilization, sample wetting, etc.) on the crystal size and percent crystallinity.

A study has been started on the lysosomal enzyme profile of the cells involved in endochondral calcification. Methods have been set up for the isolation and analysis of the hydrolytic enzymes in the lysosomes of cells in the epiphyseal plate of growing rabbits. Parallel electron microscope studies are being carried out to locate specific enzymes in the cell.

In general, electron microscopy is being applied to the study of the synthetic amorphous calcium phosphates and the nature of the mineral phase hard tissue calcification. The microscopy is being done in collaboration with

the Department of Anatomy, Cornell University Medical College.

Infrared absorption spectroscopy studies on the nature of the mineral phase in fracture callus formation have been carried out. Concomitant studies of pathological calcification have been initiated and will be pursued in the coming year.

An electronic computer (IBM 7094) program was written for handling the low angle x-ray scattering data from bone and protein studies. This program is being used to calculate such parameters as the specific surface, particle size and will be used to get molecular weight and configuration of the bone proteins under study. In addition, a program was written, in collaboration with Professor A. Bienenstock of Harvard University, to ascertain the effect of a diminution of crystal size on the x-ray diffrac-





tion pattern of hydroxyapatite. This complicated calculation will throw some light upon the nature of the amorphous calcium phosphate in bone mineral.

Work was completed this year on the crystalline nature of avian, medullary bone during the resorption process. This work was done by x-ray diffraction techniques. In addition, x-ray methods were developed and applied to the study of apatite crystal orientation in bone and teeth.

**D. LABORATORY FOR  
BIOCHEMISTRY —  
H. E. Firschein, Ph.D., and  
Gad Shtacher, Ph.D.**

During the past year, we have continued with our studies on collagen metabolism. Since collagen is the only protein that contains appreciable amounts of hydroxyproline, hydroxyproline levels can be related to collagen metabolism. The hydroxyproline that is found in collagen is actually derived from proline, and not from hydroxyproline. We felt that it would be of interest to compare the rates of proline incorporation and the rates of hydroxyproline formation in different bones. For our studies we have employed both  $C^{14}$ - and  $H^3$ -proline. In brief, these studies have shown that different bones, and different anatomical areas within bones, have markedly different rates of collagen synthesis. The fastest rate of collagen synthesis was observed to occur in the proximal end of the tibia, followed in decreasing order by the mandibles, tibial shaft, and calvaria. The ratio between the specific activities of proline and hydroxyproline varied with time after injection of the proline, and also from

bone to bone. This is a reflection of the fact that proline is found in other proteins besides collagen. Thus, in bone, the determination of total radioactivity, or of proline incorporation alone, does not permit an accurate measurement of collagen synthesis. This information can only be obtained through a measurement of hydroxyproline. These results have been submitted for publication.

In an extension of the experiment described above, we have also measured collagen resorption in different bones over a longer period of time. These studies revealed that different bones, and different areas within bones, also had markedly different rates of collagen resorption. The results were compared with similar data obtained by others using  $Ca^{45}$  as a tracer for the mineral phase of bone. In general, there was a marked similarity between the over-all data for collagen turnover and mineral turnover in normal animals under a steady-state condition. This information validates the conclusions concerning bone growth and remodelling which have been based upon studies of the mineral phase alone. These results have been accepted for publication.

It is apparent, however, that a strict comparison of collagen and mineral metabolism must be carried out by means of simultaneous studies in the same animals. Such studies have been carried out, and again we have confirmed that under normal, steady-state conditions the over-all rates of collagen and mineral turnover are similar.

Since there are fairly large metabolic changes in bone during the healing of a fracture, we selected this condition as an experimental model in which to study collagen and mineral

turnover under non-steady-state conditions. The results indicated that, during the healing of a fracture, there is a marked increase in the rate of synthesis of collagen. This stimulation reaches a maximum about seven days after fracture, and then declines. The actual calcification of the callus, as indicated by both  $Ca^{47}$  and  $Ca^{48}$  studies, proceeded at a much slower rate than collagen synthesis, and gradually increased throughout the experimental period without any signs of a decline. Thus, during the early time interval after fracture, there is first a marked increase in the synthesis of collagen, and then a gradual calcification of the callus. These studies have been submitted for publication.

**E. LABORATORY FOR STUDY OF  
BONE METABOLISM —  
Paul D. Saville, M.D.**

**1. Symptomatic osteoporosis and  
the menopause**

Seventy-two women with symptomatic osteoporosis had a menopause at the same average age as 97 control women. About one-third of osteoporotic women and of controls had had a hysterectomy at the average age of 40. Nevertheless, osteoporotic women who had had a hysterectomy developed symptoms at the same average age as those who had had a natural menopause. Age at the menopause "explained" only 6 percent of the factors determining the age of onset of symptomatic osteoporosis.

**2. Relation between axial and appendicular  
skeletal calcium and body weight in the rat**

The total calcium content as well as the calcium content of individual long bones has

been measured in male and female rats from weaning to maturity and was found to be linear functions of body weight in both sexes. The calcium content of the total skeleton was a constant percentage of body weight in males but was a continuously increasing percentage of body weight in females. The calcium content of the tibia and femur expressed as a percentage of total body weight changed ten-fold between weaning and maturity in females but hardly changed at all in males. In mature animals above 250 g, calcium is distributed in the different bones of the skeleton in the same proportions in both sexes though females contain much more calcium at any given body weight than males.

### **3. Qualitative effects of age and nutrition on rat skeleton**

The effect of age, weight and nutrition on the skeleton was studied by observing pair-fed littermate rats, the experimental group being fed 60 percent of the amount of a totally synthetic diet that the controls had. Experimental animals grew more slowly than controls and attained the same final weight 80 days later. Bone density was dependent on body weight irrespective of age. From a nutritional point of view this suggests that dietary calcium requirements should be considered in relation to calorie requirement, rather than amounts of calcium per day.

### **4. Fluoride method**

Ernest O'Dierno has described a new rapid and totally automatic method for estimating virtually any concentration of fluoride in any material. Using fluorine 18, he has obtained recoveries of 99.9 percent compared to standard method of 92 percent.

### **5. Parathormone assay**

Rabbits are being immunized against P.T.H. with a view to establishing an immuno-assay for clinical use in conjunction with Dr. Korngold.

### **6. Nutritional secondary hyperparathyroidism**

The effect of nutritional secondary hyperparathyroidism on calcium kinetics has been studied in dogs maintained on experimental diet for up to one year. This work was done in conjunction with Drs. Krook and Olsson.

## **BIOMECHANICS**

In 1966 work in the Biomechanics Laboratory proceeded along two lines: a) further development and application of bone strength measurements, particularly in relation to calcium metabolism studies; and b) bioengineering studies on the friction and wear characteristics of materials which seem promising for use in prosthetic devices.

### **7. Bone strength studies**

Previously developed techniques of compressive load and stress measurement were applied in association with calcium distribution studies to:

- a) growth in the normal female rat;
- b) rats given a high fluoride intake (i.e., up to 75 p.p.m. in the drinking water);
- c) rats given a controlled degree of exercise in relation to unexercised animals.

Preliminary investigations were made into new methods of bone strength measurement utilizing fully hydrated bones under both compressive and bending loads. These techniques permit strain to be measured on small bones,

and from this calculations of Young's modulus can be made. This work forms the basis on which an Instron table-model, materials-testing machine is being acquired. This machine affords both more refined measurement and more versatility than the present Riehle machine.

### **8. Friction and Wear Studies**

A testing program was begun as part of the project being undertaken by Dr. Amstutz to develop new materials and designs for total artificial hip prosthesis. In this connection a Dow Corning LFW-1 friction and wear testing machine has been acquired. This machine permits the evaluation of the friction and wear characteristics for materials under various conditions of lubrication and loading.

The machine measures the frictional force produced on a block in contact with a rotating ring. The ring can be rotated at a selection of speeds, or it can be oscillated at a standard frequency through angles of up to 90 degrees. The force pressing the block against the ring is variable from 0 to 630 pounds. Wear measurements are made by weighing the ring and block before and after testing.

The LFW-1 machine has been and is being used to examine a wide variety of potentially useful prosthesis materials, from those in standard use, such as vitallium and 316 stainless steel, to some of the new industrial plastics. The lubricating characteristics of synovial fluid have also been compared to those of various oils in order to find a substitute for the former, which can be readily obtained for use in further materials tests.



W. Eugene Smith

## F. LABORATORY FOR BIOMETRICS — Melvin S. Schwartz, M.D.

The activities of the Laboratory for Biometrics have centered about three main areas in 1966: teaching, consultation and research.

**Teaching Program:** An expanded eleven-week biometric course was offered to the second year medical students during 1966. In addition to such subjects as statistical testing, experimental design, and bio-assay, a segment of the course was devoted to computer programming in Fortran language. The computer facility at CUMC was utilized.

A graduate course in biometrics was offered during the academic year, including also a series of problem-and-theory sessions in calculus. The students of the graduate course were registered graduate students, post doctoral students, and graduate students of nearby institutions with affiliations at CUMC.

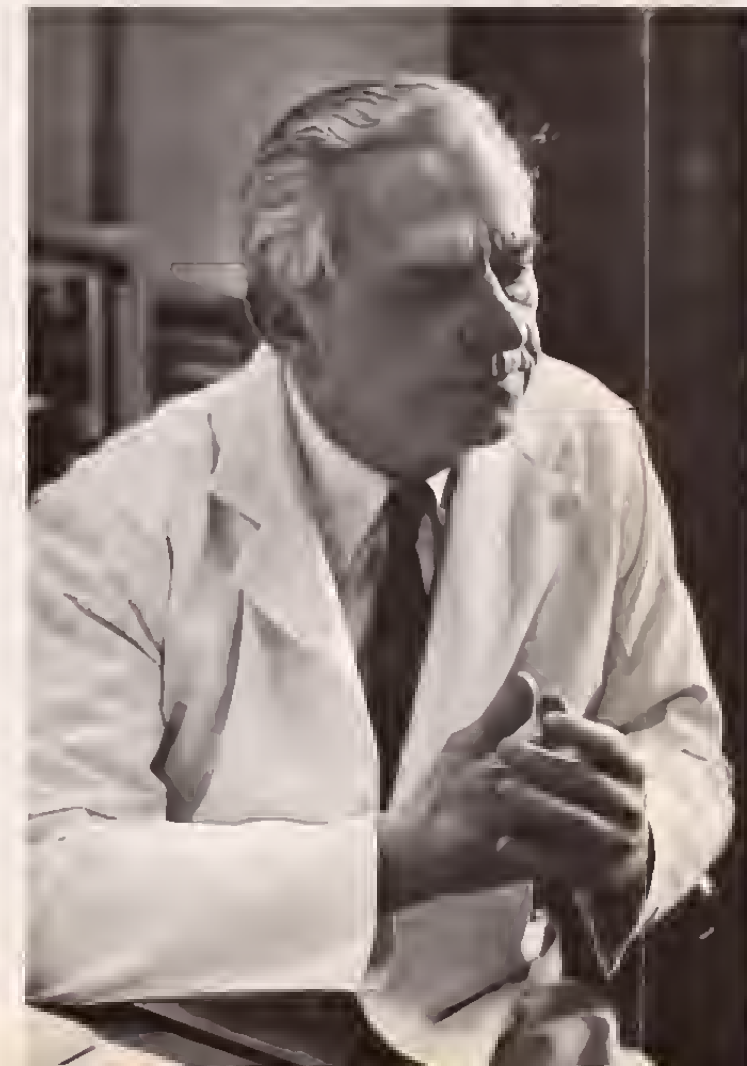
A series of seminars in biometrics was held for faculty and staff.

A series of calculus workshops was held for the staff of HSS.

An eight-week Research Participation Program for talented secondary school students was conducted for two summer months under the Laboratory's supervision. The program was aided by a grant from the National Science Foundation, and consisted of a dozen students acting as research assistants in selected HSS and CUMC laboratories. HSS and CUMC staff members gave the students morning and evening seminars on special topics in physiology.

**Research:** The Research activities of the Laboratory for Biometrics are reflected by the papers in preparation and those recently published.







## A Tribute

- ▶ Dr. Philip D. Wilson, surgeon-in-chief emeritus, and Dr. Robert Lee Patterson, Jr., surgeon-in-chief, have together devoted over 60 years to HSS. The two share many qualities — energy, skill, vision, humanity and, above all, a zest for life. Those at HSS whose lives they have enriched are deeply grateful.

**G. LABORATORY FOR  
COMPARATIVE ORTHOPEDICS —  
Sten-Erik Olsson, V.M.D., Ph.D., M.D.**

1. The experimental study of methyl 2-cyanoacrylate (Eastman 910 Adhesive) as a glue for bone grafts was completed by Drs. Olsson and K. A. Rietz, and reported in *Acta Chirurgica Scandinavica Supplementum* 367, summarized as follows: "Autogenous glued and non-glued grafts of canine compact bone were used and their incorporation was studied by means of histology on oxytetracycline labeled, undecalcified, unstained sections and micro-radiograms. It was shown that Eastman 910 Adhesive delayed the incorporation of the grafts and in some cases caused displacement and death of the grafts. The glue seemed to have an irritating effect on the overlying tissue in some cases."

Along with the study of Eastman 910 Adhesive, observations were made on the healing of grafts in cortical bone and on the fate of autogenous grafts. Endosteal bone formation was found to be of greatest importance for the bridging of a cortical defect.

No definite conclusion could be made as to the extent to which cells from the graft took part in remodeling of the graft. However, no principal difference was found between new osteons formed in the graft and those formed in the host bone. Oxytetracycline labeling showed the same pattern in the graft as in the bone, with the exception of a certain time lag.

2. Drs. Olsson and Figarola studied remodeling processes in bones and healing fractures with three fluorogens. The experimental

part is complete and the material is now being analyzed.

3. Dr. Gunnela Ljunggren, a visiting scientist from the Royal Veterinary College, Stockholm, Sweden, has collected 238 cases of Legg-Calvé-Perthes disease in the dog. Statistical analyses show that the canine disease is constitutional, occurring only in miniature dogs. The disease occurs in equal sex distribution in adolescent dogs. The anatomy, studied with radiography, conventional morphology, microradiography and tetracycline fluorescences, revealed that the main features of the disease are premature closure of the epiphyseal growth plates and excessive endosteal bone apposition, eventually leading to collision of epiphyseal trabeculae with subsequent osteonecrosis. Lesions were generalized but with the head and proximal metaphysis of the femur as the outstanding site of predilection. The changes were interpreted as expressions of precocious sexual maturity. Successful reproduction of the morphological picture by injections of sex hormones into constitutionally resistant juvenile dogs substantiated this interpretation.

Limited studies of radiostrontium uptake in the skeleton after estrogen treatment support the view that excessive amounts of bone result from increased apposition and contradict the opposite view that decreased resorption would be the primary manifestation. The results are in agreement with Dr. Ljunggren's interpretation of the morphological features of spontaneous Legg-Calvé-Perthes disease.

4. Drs. Per-Olof Gustafsson and Lennart Krook are studying luxation of the patella, which develops in estrogen-treated dogs. A theory that the two distal ossification centers of the femur do not develop properly as a result of the somatotrophine-retarding effect of estrogens is being studied. Improper height of the femoral trochleae would then predispose the dislocation of the patella.
5. Drs. Bauer, Figarola, Krook, Olsson and Saville are studying nutritional secondary hyperparathyroidism in the dog. This has been induced in adult, male beagles by feeding them a diet low in calcium (0.12 percent) and high in phosphorus (1.06 percent). Control dogs have been fed 0.6 percent and 0.4 percent respectively. Various parameters of hyperparathyroidism are being studied.

**H. EVELYN SHARP LABORATORIES  
FOR NUCLEAR MEDICINE —  
Göran C. H. Bauer, M.D. and  
Edward M. Smith, Sc.D.**

The new laboratories for nuclear medicine were especially constructed and equipped for study of problems in orthopedics and rheumatology. Three hundred fourteen patients have been studied so far, with the majority suffering from osteoarthritis, bone tumor, infection, Paget's disease and necrosis of bone. In most of these patients external counting over bone has been performed up to two weeks following intravenous injection of Sr-85. The objective of these studies has been twofold, diagnostic and investigative. Our findings in osteoarthritis of the knee provide an example of what we try to achieve.





Earlier measurements of Ca-47 and Sr-85 uptake in the spine and the hip in man have demonstrated that osteoarthritis is associated with an increased rate of bone tissue turnover. The present study was aimed at correlation of the uptake of Sr-85, as influenced by osteoarthritis, to radiologically visible anatomic details. One hundred human subjects were studied by Dr. Anderson; the majority of the knees were afflicted with primary osteoarthritis of the medial type. Two weeks following parenteral injection of Sr-85, the distribution of tracer in the knee region was determined by external counting. A focused collimator permitted significant measurements in  $\frac{1}{2}$ " square areas superimposed on the radiograms. It was found that the uptake of Sr-85 was higher than normal in those areas of the osteoarthritic knee where osteosclerosis was a predominant radiographic feature; medially in genu valgum and laterally in genu valgus. Some observations suggest that alterations in the uptake pattern of Sr-85 may precede radiographic abnormality. The isotope data seem to provide an additional aid in the differential diagnosis between osteoarthritis, rheumatoid arthritis, avascular necrosis and meniscal lesions.

The model studied demonstrates the unique possibilities offered by the skeleton as regards topologic definition; it seems possible that the relative values for Sr-85 uptake reported here may be translated in absolute terms.

Respectfully submitted,

Göran C. H. Bauer, M.D.  
Director of Research

## REPORT OF THE ADMINISTRATIVE VICE PRESIDENT

For a venerable 103-year-old institution, HSS had a remarkably eventful year in 1966. Included were a transit strike, burglaries, a fire, a full quota of social activities and — more to the point — numerous improvements in our ability to render the best possible service to our patients. In short, we had enough drama to fill a best-selling novel about Life in a Great Metropolitan Hospital.

We also experienced a continuation in growth. This is highlighted by the fact that in 1966 operating and non-operating income for the first time exceeded \$5 million, reaching a figure of \$5,335,000. This compared with \$4,787,000 in 1965 and \$4,583,000 in 1964. This increased income was realized despite a total of 61,617 patient days — lower than in 1965 and 1964, both of which were record years. Our occupancy rate was 84.8 percent. Clinic visits also declined to 43,968.

Operating costs rose in 1966; they are expected to rise even more sharply in 1967, which imposes the need to develop additional income. This upward spiral is being experienced by hospitals throughout the country and is expected to continue for at least another year.

An agreeable item on the financial side is that for the first time our unrestricted gifts reached a total of more than \$200,000. This came from benefit receipts, the sale of souvenir journals, the raffle at the David Webb benefit, annual and voluntary giving and Board gifts.

### Personnel relations

Last year I had occasion to comment with pleasure on the *esprit de corps* of the Hospital family during the power blackout. This attitude of togetherness and cooperation met an even tougher challenge in a new crisis — the 13-day transit strike which started the new year on a grim note.

Fortunately we were forewarned and able to improvise quickly, so that the first weekend passed without undue hardship. We temporarily discontinued the Personnel Department's functions and converted its staff into a Transportation Department in the front lobby.

We then took three immediate steps: (1) hired a 58-passenger bus, (2) organized an employees' car pool with routes covering all boroughs and all shifts and, (3) to supplement these, arranged for additional cars and drivers on a 24-hour basis.

Also, by the end of the week, in conjunction with Beekman Downtown, Beth Israel, University, New York and Memorial hospitals, we had made arrangements with the Circle Line for morning and afternoon boat service from Queens, Upper and Lower Manhattan and Brooklyn.

Though we provided sleeping quarters, few of the staff took advantage of them, yet absenteeism was estimated at no more than about 15 people over normal.

No hospital services had to be curtailed beyond one or two non-acute elective surgeries which needed blood that was not available until the Monday following the strike. The

most serious impact was felt in the Out-patient Department where clinic visits dropped by 1,045 under the preceding January and our ancillary income fell by more than \$3,000.

Transportation and overtime costs reached \$500 a day, and our total strike bill came to \$9,517.40 — a remarkably low figure in comparison with those of other hospitals.

For many years we have been building what I believe to be one of the finest personnel relations programs of any hospital anywhere. One facet of this is our tuition-refund plan for nurses. Last year we broadened this plan to encompass all regular employees. They are encouraged to acquire additional education on their own time — in any college, university, business or training school in the area. Our part is to provide financial assistance — based on the grades they receive — while they are attending classes. By the end of the year, 30 employees had taken advantage of the plan.

Another innovation was a series of 12 one-hour sessions with all employees of the Hospital and research building. There were three morning sessions, seven afternoon sessions and two at midnight. During each, I gave a 45-minute talk covering the history of the Hospital (for new employees), medical advances during the year, advances in administration and personnel policies, the operating budget of the Hospital, recent laws affecting hospitals in general (Folsom, Medicare and Medicaid), our long-range expansion plans — including the rehabilitation building and the apartment building — and other pertinent subjects. At the close of each session, 15 minutes were devoted to questions and answers, and I am





pleased to say we found the questions from the floor both diversified and interesting. General comments around the Hospital were all favorable, and we plan to have similar orientation programs two or three times a year from now on.

### **Staff changes**

1966 saw several important new additions to our staff.

Among them were:

Mr. James D. O'Neill as Financial Director-  
Assistant Treasurer

Miss Dorothy Belmont as In-Service Education Supervisor

Miss Deborah Fuller to Personnel Director, a well deserved promotion.

At a dinner for the "15-25 Year Club," attended by 110 guests, four members received 25-year pins:

Dr. L. Ramsay Straub

Dr. Milton Helpen

Mrs. Dolores Mattia

Mrs. Adele Ingram

And nine of our associates became 15-year members.

Retirement cost us 15 valued friends: George Cort, Hazel Evans, Olive Fischer, Lillian Fox, Edith Friberg, Joseph Gaffney, Agnes Gordon, Otto Just, Ruth Mandeville, Carrie McQueen, Dollie Millender, Veronica Sutcliffe, Hester West, Jane Wilson and Florence Winter.

It may seem invidious to single out one person from so many loyal employees, but I should like especially to mention Mrs. Hester West as

an example of the people who make my job so rewarding. We knew her as a pantry aide and a devoted member of the Hospital family. But Mrs. West was far more than that. The widow of a pharmacist, she raised six children — four boys and two girls. One son is a lawyer, one an architect, and another is working for the New York City Urban League. One of the girls is a nurse, the other a housewife. Two of the boys are Korean veterans. We hope that Mrs. West and all our other pensioners enjoy their quieter years to the full.

Unhappily, death also took its toll. Dr. Olav Austlid, George Broughton and Helen Zak were active staff members — indeed, Mr. Broughton died while at work on his job as night telephone operator and admissions clerk. Among our pensioners and retired friends who died were Dr. Cary Eggleston, Mrs. Henry Hoepli, Bella Campbell, Birdy James, Carol Leonard and Grace McCullough.

#### Plant changes

Probably the structural alteration which most people noticed last year was the beginning changeover of the front elevators from manual to automatic. Savings in operational costs will pay for the new elevators in less than three years. An operator will be retained in the number one car during the day to help with stretchers, wheel chairs, cribs and beds.

Removal of the clinic elevator gave us much needed space in the cellar, basement and first three floors.

Other installations and renovations were made in the X-ray darkroom and clinic area of the main floor, Central Supply and the operating

rooms on the fourth floor, and the treatment and patient waiting rooms on the sixth.

In the research building we completed areas on the fifth floor to house laboratories for nuclear medicine, biometrics and biomechanics. Part of the sixth and seventh floors were finished to house the Personnel and Accounting departments, Second Century Development Fund headquarters and a machine room with new air-conditioning unit.

We also modified the warehouse property on 71st Street to provide parking for about 40 automobiles on the street level and storage space for X-ray films, hospital stores and other supplies on the second floor.

#### Medicare and Medicaid

Last July 1st — for the record a hot and humid day — American life began a new era, and for better or worse, the story of health-care will never be the same again. Title XVIII, otherwise known as Medicare, came upon us.

In HSS the occasion was signaled when 21 patients aged 65 or over woke to begin what is known — by Federal proclamation and in Federalese — as a new “spell of illness.” During each such spell, the patient need pay only the first \$40 of hospital costs and for the first three pints of blood. The government takes care of the rest. And doctors, who heretofore had donated their services, are now being paid for them by the government.

Actually the arrival of Medicare was something of an anti-climax. (Of all clinic visits in 1966, only 3,279 were on Medicare — about 8 percent.) But I believe our staff has every rea-

son to be self-congratulatory about the way in which it handled the situation. Many hospitals overestimated the additional help they would need and were forced to let a large percentage go. At HSS we found two clerks sufficient for Medicare and one for Medicaid — Title XIX — when that came to us in October.

#### Social events

Again the calendar was, if not crowded, pleasantly filled with social activities. Most newsworthy of these was the benefit showing of jewelry by David Webb, a young goldsmith from Asheville, North Carolina, who had created the 45 pieces shown in the collection — five of them purchased by Mr. and Mrs. Kennedy when they were in the White House and given as presents to heads of state. The showing, at a Madison Avenue gallery, was covered officially by *Life*, unofficially by the *Saturday Evening Post* and, in prose I am unable to surpass, by *Women's Wear Daily*, which described the event as follows:

“The walls are hung in dark blue velvet — with pinpoints of light electrifying one of the most extraordinary exhibitions of our time. The room is in absolute darkness outside of the pinpoints of light. It's like a maharajah's treasure chest — it's like the Taj Mahal — it's, as I've said, one of the most extraordinary exhibitions of our time! The room is filled with glittering women — their jewels are picked up by the lights and the room is as if charged with millions of laser beams. Clothes — it's Givenchy — it's Dior — it's every top fashion name in the world. From the names in the room, it's every name from Windsor to Amory to Houghton to Hilson to Wrightsman to Kennedy.”





## ENDOWED BEDS

A bed may be endowed by an unrestricted gift to the Society of not less than \$7,500 made for that purpose, and the donor during his life, or, if the gift is made by will, the person named in the will for a period not to exceed twenty years, shall have the right to designate an occupant of such bed. When the gift amounts to \$10,000 or more, the Society will furnish to the designated occupant of such bed without charge in any one calendar year care and services, the cost of which, computed at the Society's then scale of rates, equals the income earned by the Society on the amount of such gift, computed upon the basis of the average rate of return on the Society's general funds during the preceding calendar year. The Society will list all endowed beds in its annual report and record the same on appropriate plaques in the Hospital.

## LEGACIES OF THE SOCIETY

The Society has always been greatly aided by this form of generosity. No precise words are necessary to a valid legacy to the corporation. The following form, however, may be suggested.

"I give to New York Society for the Relief of the Ruptured and Crippled, located at 535 East 70th Street, New York City, the sum of

..... Dollars."







Mrs. John F. Kennedy at the HSS benefit

Among the 500 visitors, the most distinguished were the Duchess of Windsor, patroness of the exhibition, and Mrs. John F. Kennedy. And — I am pleased to say — HSS was enriched by \$46,310.

Other social activities made no headlines. But they were probably more enjoyed by our Hospital family. They included:

The social welcome in July by the Administration to 11 residents and fellows starting on their programs. At this time the newcomers were informed of all procedures and rules covering their residency and fellowships and the benefits given by the Hospital. This was the second time we had tried this program and we believe it is a very effective means of introduction to both the professional and administrative staffs.

The annual golf tournament was held in September at the Pelham Country Club. Bad weather held down the turnout, but host Dr. Doherty, the committee and excellent food made the affair a definite success.

At the annual dance in October, staff and employees relaxed to the danceable music of Jerry Bartel's orchestra in the Colonnades Room of the Essex House. Among major prizes were a one-week paid vacation and a stereo set.

Alumni Days were held in November, and 135 of the staff and alumni enjoyed cocktails Thursday evening in the library, luncheon Friday, and dinner and dancing at the Essex House that night.

And, to wind up the social year in the most befitting manner, we come to Christmas. Ever since 1929 this party has been given by the Reta Violet Bridge Club, which also spon-

sored monthly ice cream treats for the children. But Time has taken its toll of these kind ladies and this year they no longer felt up to handling the occasion. Reluctantly we gave it without them, but I am sure their spirit of love and kindness was felt by all the children confined to the Hosiptal on December 22.

### Miscellaneous

At the beginning of this report I mentioned drama. Most of the incidents were minor and can be covered in a line or two.

During October the 77th Street Hospital apartments played unwitting hosts to burglars no fewer than six times in a three-week period. Individual burglar alarms were installed and there have been no recurrences.

In December a minor fire broke out in the sub-basement of the shaft under construction for office and cafeteria expansion, when blowtorch flames dropped onto a wooden scaffolding and some air conditioners stored at the bottom of the basement pit. Our Hospital fire brigade, true to the noblest traditions of the service, had the fire out within minutes.

March saw our only other dramatic occurrence of note when an elevator car in the research building, instead of going up, went down. This would have been nothing to report except that a nuclear scanning table, weighing approximately 800 pounds and too bulky to fit into either the car itself or be carried up the stairwell, was attached to the car's underside.

The descent was normal and there were no repercussions. To forestall any possibility of a repetition of the contretemps, however, an investigation of the cables was made and they have been replaced.

During the summer we had an independent audit made of our food purchasing. To the astonishment of the auditing company, which had expected to find that we were overspending, it discovered what we had strongly suspected all along: Mrs. Goldstone has been not only a good dietician but a shrewd shopper and buyer as well. As a result of the survey, we have adopted a policy of buying all our food, except bakery and dairy products, through a central agency. Savings in actual food costs are minimal, but savings in indirect costs are highly significant and make our entire food operation more efficient.

We also engaged the firm of MacNicol, Johnson to make a study of our office procedures, to strengthen the organization and efficiency of our accounting department. The study included these seven areas: admissions (including statistics); cashiering — the flow of cash; patients' accounts (including billings and follow-up); charging procedures from nursing sta-

tions, laboratory, x-ray, pharmacy and other service departments; staffing and budget for the accounting department, and space utilization.

### Conclusion

In the last few years there has been a great deal of talk about public "image." Everybody, everything has one: politicians, corporations, banks, TV stars and even Con Edison. HSS has one, too. To you and me, who are constantly involved with the Hospital, that image is one of enduring service.

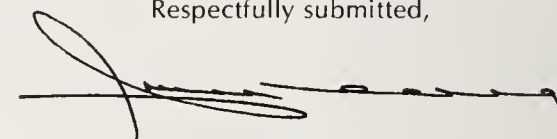
This year's report has attempted to tell — sketchily — some of the many ways in which we tried, last year, to improve our performance in particular areas of service. It has said nothing of our image in the eyes of the public we serve. But a recent incident is significant, I think.

It happened to a visitor who arrived by cab.

As the driver stopped at the main entrance, he said, "I've been a patient here myself. They're different from other hospitals. Everybody treats you like you're a human being, not just a case. You know what I mean — they act like they care."

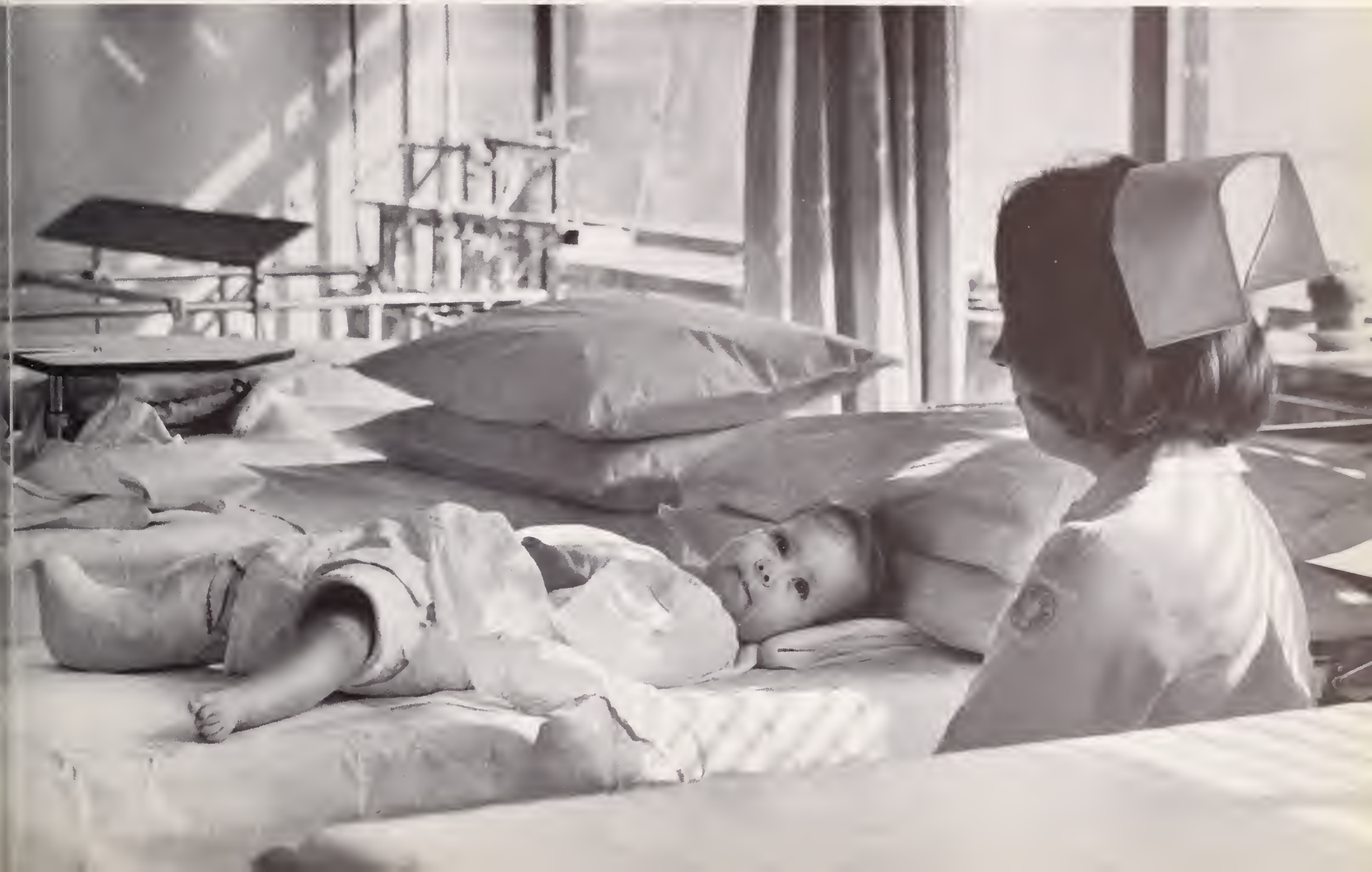
And that, with the continued dedication of all of us — the Board, medical staff, administrators and personnel — is how we shall remain.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'T. Gordon Young', written over a horizontal line.

T. Gordon Young  
Administrative Vice President







## REPORT OF THE DIRECTOR OF NURSING

Although 1966 saw the department as overworked — and cheerfully complaining — as ever, we feel it not only held its own but made appreciable strides toward its key objectives.

Miss Hazel Evans' retirement as OR supervisor after 37 years of service was deeply regretted, but we found an able successor in Miss Elizabeth Kersch, another member of our staff. We also welcomed Miss Mildred Hallock to replace Mrs. Mary Kaymak as assistant director of nursing education when the latter leaves in 1967. And Miss Dorothy Belmont came to us in September from Lenox Hill Hospital as in-service education supervisor.

Competition within the city forced our professional salaries 17 percent upward, with a 20 percent differential for our evening and night shifts. Neither this nor the expectation of more housing produced badly needed RNs, but our staff turnover rate declined from 63.6 percent in 1965 to 48 percent in 1966. Our present staff consists of 66 RNs, 77 LPNs, and 55 non-professionals.

To counteract the nursing shortage, we availed ourselves of non-professional help wherever possible.

Six high school students worked as messengers and transporters of patients to the x-ray, plaster and physical therapy rooms.

We reduced overtime pay and spared our regular staff a six-day week by hiring third- and fourth-year students in the Hunter College nursing science program one day a week —

Saturday or Sunday — when our coverage is at its lowest. Hopefully, the students found the experience rewarding enough to encourage them to return as graduate nurses.

We formed an intensive-care team for children with curvature of the spine and respiratory impairment. The highly sophisticated equipment used required hours of teaching by our supervisors but results justified the effort. Families of these children are now brought to HSS to learn proper techniques of caring for their children when the latter are taken home. The approximate cost per day for one child was \$91.

We gave a six-week class-room, on-the-job-teaching surgical technician program for three of our personnel; we will repeat the course as need arises.

Nineteen sixty-six also marked the reactivation of our in-service education program:

Three full-time and three part-time floor clerks received instruction and were then placed on all units to handle clerical duties for head nurses who can now give undivided attention to the direction and supervision of patients' needs.

In the interest of smoother communications, we changed our nurses' note-record and medication-record systems to conform as closely as possible with methods in general use throughout the Medical Center. Classes were held on all three shifts, and medical and nursing staffs now follow one procedure instead of many.

An orientation program was instituted for all new department employees.

Our School of Practical Nursing remains our



major source of nursing care, and last year it admitted 88 students and graduated 68 (bringing our total number of graduates since its founding in 1955 to almost 600).

The school received accreditation for another five years from the New York State Board of Examiners for Nurses, and from the National Association of Practical Nurse Education and Services for another year. We are still a charter member of the Department of Practical Nurses of the National League of Nursing.

In July we were forced to increase the fee from \$25 to \$250; and perhaps for that reason the number of applicants fell from 422 in 1965 to 200.

Sixty-eight registered nursing students from the Mary Immaculate Hospital School of Nursing rotated ten at a time for an eight-week period for their orthopedic clinical experience.

Fourteen practical nursing students received a total of \$2,330 for scholarship aid during the year; and 12 registered nurses received \$4,000 toward their degrees in five different colleges.

A major step toward increasing our nursing staff was a program of scholarship aid which allows graduates of our School of Practical Nursing to take two-year registered nursing programs in community colleges or hospital nursing schools, with the understanding that they will return to us for two years upon completion of their courses. The scholarships pay tuition fees and living expenses for the length of the programs. At the end of 1966 eight of these students were matriculating in the nursing science programs.

The home care service handled 5,067 visits in

1966 (its first full year of operation) and we received 204 visiting nurse referrals.

Many changes great and small were made in the interest of economizing without sacrificing nursing quality:

We replaced the old instrument sterilizer brought uptown from 42nd Street with new ultrasonic equipment that handles in 20 minutes a load the old machine needed up to two hours for.

We standardized supplies for each unit to reduce indiscriminate ordering.

We discontinued making our own distilled water in favor of the cheaper, and safer, commercial product.

We introduced, or increased the use of, disposable needles, syringes, enema trays and similar items.

We set up on each floor (and replenished by twice-daily deliveries) par stocks of solutions and such supplies as ace bandages and dressings. (This close check, incidentally, has resulted in a monumental reduction in losses.)

Preventive maintenance, and having the Central Supply supervisor learn to repair equipment, produced great savings in time as well as in service and repair charges by outside contractors.

We purchased side rails for all beds, and color-coded wheel chairs for better control.

In the OR, disposable drapes replaced cotton drapes; we discontinued replating instruments with chrome, and new instruments henceforward will be stainless steel. Manufactured

dressings and sponges took the place of home-made ones. We purchased two new surgilifts and are working toward the purchase of a new OR table and remodeling three other tables. And, finally, we established more stringent rules to reduce traffic in the operating room and recovery room suites.

Looking ahead to 1967, we plan to:

Recruit and teach medical students as OR technicians on a year-round basis.

Install knee-controlled scrub sinks.

Purchase two instrument washer sterilizers.

And once again we wish to acknowledge the cooperation afforded this department by the administrative, professional and service departments, affiliated hospitals, and the members of the Board of Managers. For their continued interest and support we cannot express our gratitude; we can only demonstrate it.

Respectfully submitted,



D. Dean Smith, R.N., B.S., M.A.

## Scoliosis

W. Eugene Smith



Scoliosis (spinal curvature) mainly afflicts children and teenagers, of which 85 per cent are girls

"Halo," applied under local anesthesia, is linked to a body cast worn for months after surgery







▶ Milwaukee brace, used in non-operative cases, is adjusted in the scoliosis clinic

With respirator to assist patient's breathing, team can perform surgery in cases once considered inoperable ▶

Two teenagers with severe scoliosis and decreased breathing capacity are among those treated by new orthopulmonary team  
▶



## REPORT OF THE DIRECTOR OF SOCIAL SERVICE

The Social Service Department changes constantly to meet the changing needs of its patients and the progress of medicine — not to mention government aid and government directives. Changes mean problems, of course, and our greatest of these continues to be the lack of graduate workers with masters degrees. These are particularly important to in-patient services where only adequately trained workers can recognize and understand the impact of illness, hospitalization and disability on the young and old. We keep hoping for more workers with the requisite qualifications, but even realistic increases in salary have not brought them forth.

As of July 1, Medicare had its effect on our department. Hospitals must now organize committees to review the disposition of each Medicare patient, and a social worker must be part of each committee. At HSS workers assigned to adult orthopedic and arthritis services function in this capacity and the orthopedic worker serves as the committee secretary.

In addition, each hospital must form a utilization committee whose primary function is a periodic review of patient care "for assuring that optimum use of the facilities and service of the institution is being made for the benefit of its patients and community." Doctors comprise the majority of the committee but the director of social service is also a member, and regular meetings are held for discussion of patients remaining in the hospital for more than twelve weeks.

A departmental innovation this year was the introduction of team rounds in the in-patient services, in which the chief resident meets with the social workers, the nurse supervisor, charge nurse and the nurse home care coordinator. So far the results have been gratifying in improving communications among all directly concerned with the patient and his problems — and particularly in the care of the patient himself.

In 1966 we lost a valuable member of our team, Mrs. Ruth Mandeville, who retired after 17 years. The following appointments were made:

- 1) Miss Lee Ann Cauley, who left HSS in 1965 for graduate study at Simmons College of Social Work on a Sue Golding Scholarship, assigned to the Cerebral Palsy Department.
- 2) Mrs. Betty Saltzman, Simmons College School of Social Work, assigned to the Arthritis Service.
- 3) Miss Susan Ostro, Boston University, with three years experience with the Westchester County Department of Welfare, assigned as case aide to the Children's Out-patient Department.
- 4) Miss Edith Ramos, assigned as case aide to the Adult Out-patient Department.
- 5) Miss Irene Rizkallah, Muhlenberg College 1966, assigned as case aid to the Cerebral Palsy Service.

Twice-monthly staff meetings continue with discussion of problem cases and talks by guests from outside agencies. And every Tuesday consultant-psychiatrist Dr. J. Warren Brown assists the staff with patients and recommendations for treatment of those with personality problems.

Robert Goldstein





**EDUCATIONAL ACTIVITIES** — We were particularly grateful this year for the very generous increase in the Sue Golding Scholarship from \$3,000 for a second-year scholarship to \$6,000 for a two-year scholarship; recipients will have a two-year commitment to the department when they complete graduate school. This year two candidates were chosen, each for a one-year scholarship: Louise Marcotte who had trained as a case aide in 1964 and was a student at Smith College School of Social Work, and Linda Kennedy, a student at Fordham University School of Social Service.

For our eleventh year of participation in the Social Work Summer Recruitment program, we chose Patricia Minikes, a junior at Cornell, to spend eight weeks as a case aide. Another case aide — for 15 weeks training — was Mrs. Tauba Kirschen, formerly a lawyer in Romania, referred to us by the American Council for Emigres in the Professions.

And Kathy O'Hara and Mrs. Lee Wilson, case workers in in-patient care, attended a twelve-week, once-a-week psychiatric institute for graduate non-psychiatric social workers.

**DESIGNATED FUNDS** — Happily our many friends have continued the loyal support they have shown so many years, support which provides necessities and comforts for patients, particularly the elderly, who would otherwise have remained deprived. Among these friends, we have space to mention only the Walter Scott Foundation, the Royal Aid League, Inc., the Ruth Kirzon Group and the Karet League, but our gratitude goes to them all.

**CAMPING** — Once again summer was a success for the 159 children and adults who enjoyed from three to eight weeks of camping. We have always believed camping a very important part of rehabilitation: through it children grow more independent in daily living, acquire new interests and friends, and discard their shyness or occasional belligerence. The Walter Scott Foundation increased its annual gift to \$2,500 which, with funds from the Hospital, enabled us to meet increasing costs. As usual, our main stand-bys were:

**THE SOUTHAMPTON FRESH AIR HOME** — where 60 children enjoyed the summer, thanks to Mrs. Wilfred Funk and the Southampton Fresh Air Fund, without cost to the Hospital.

**CAMP WAGON ROAD** — Chappaqua, New York, under the direction of the Children's Aid Society, which accepts mildly handicapped children from seven to 15 years of age.

**CAMP OAKHURST**, Oakhurst, New Jersey, which takes severely handicapped older children, teen-agers and adults, under the auspices of the New York Service for the Orthopedically Handicapped.

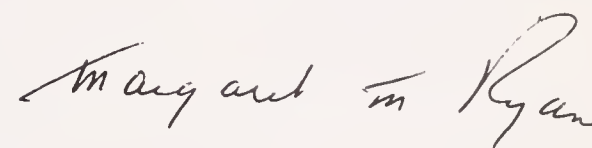
**CAMP, CAROLA**, Spring Valley, New York, which provides summer vacations for the handicapped children who attend their winter recreational program.

**CAMP HOPE**, Kent Cliffs, New York, which, under the aegis of the Lakeside Bible Conference, provides vacation and recreation for our most severely handicapped and retarded children.

**CAMP HIDDEN VALLEY**, Fishkill, New York, which, sponsored by the Fresh Air Fund, integrates handicapped and non-handicapped children to the profit of both.

The rewards of social work far outbalance its tribulations, but these rewards would not have been possible without the inspiring help of so many: Dr. Robert Lee Patterson, Jr., with his great knowledge of the needs of the disabled; Mr. T. Gordon Young, through whose understanding of the aims of social workers the latter are enabled to concentrate on the needs of the ill; Mrs. Walter J. Fried, who always finds time to direct the Women's Auxiliary on whom we so often rely, and Mrs. Robert Lee Patterson, Jr., whose Social Service Committee copes not only with conferences and discussions, but also with the marshaling of patients and the ordering of files. These are the chief recipients of our gratitude.

Respectfully submitted,



Margaret M. Ryan, A.C.S.W.  
Director of Social Service  
Department



## REPORT OF THE CHAIRMAN OF THE WOMEN'S AUXILIARY

The year 1966 was one of accomplishment for the Women's Auxiliary. Our meetings were well attended and enlivened by the stimulating reports of the committee chairmen. We are grateful to the doctors and members of the Hospital staff who so generously gave of their time to address us.

I am delighted to report that for the third successive year we achieved our quota in the United Hospital Fund campaign under the leadership of Mrs. T. Campbell Thompson. Mrs. Jane Reuter Fitzgibbon was in charge of Box Week when we again distinguished ourselves by having the highest total of any New York hospital.

We were deeply saddened by the death of Mrs. M. Henry Hoepli in September. Frances Hoepli had been a former Chairman of the Auxiliary and one of its most valuable members. She is greatly missed.

### **Volunteers — Mrs. Philip D. Wilson, Chairman**

During the past year the Volunteer department has provided additional services to in-patients. The adult recreation program was expanded to include visiting, needlework instruction and flower care. Volunteers now work as hostesses in the admitting office; they greet new patients, assist them in filling out forms, and escort them to their floors.

During the autumn a Girl Scout Troop was established on the Fifth Floor. The leaders have been most successful in adapting to a hospital situation, and some of the girls have already earned merit badges in several crafts. When

the scouts leave the Hospital, they are qualified to transfer to home troops.

Cooking classes for children on the ward service are conducted weekly by Mrs. Robert Freiburger and it is indeed heartening to witness the enthusiasm and skill shown by youngsters in wheelchairs and on stretchers.

Sixteen junior volunteers gave the Hospital over 1,600 hours of work this summer, 29 volunteer students provided recreation for the children in the clinic and on the Fifth Floor, and 193 volunteers gave 19,522 hours of service.

### **Patients' Library — Mrs. William Arnold, Chairman**

The Library submits a separate report. As Auxiliary Chairman, I would like to commend Mrs. Arnold for a most successful year.

### **United Hospital Fund — Mrs. T. Campbell Thompson, Chairman; Mrs. Jane Reuter Fitzgibbon, Box Week Chairman**

Contributions for the year amounted to \$19,468, representing 623 gifts. The Box Week total was \$2,124.27.

### **Social Service Committee — Mrs. Robert Lee Patterson, Jr., Chairman**

The Social Service Department lost two of its most valued members in 1966. The death of Mrs. Hoepli and the resignation of Mrs. Phillips left our committee sadly depleted. We welcomed two new members, Mrs. Wilson, Jr., and Mrs. Powell. The latter has been invaluable in the adult recreation program.

We are deeply grateful to Mrs. Jerrold R. Golding for increasing the Sue Golding Scholarship from \$3,000 to \$6,000. This enables us to aid two students in social work. They will join the



department for at least one year after graduation.

The most extensive effort of the committee involves making applications for our child clinic patients for summer camps. A total of 165 children departed for camps in June.

**Membership Committee — Mrs. John Rutherford, Chairman**

Mrs. Jane Reuter Fitzgibbon was elected to the Auxiliary in October. There were five resignations. The Auxiliary has 39 members — 31 active and 8 contributing.

**Gift Shop — Mrs. John H. Reynolds, Chairman**

The Gift Shop again enjoyed a successful year. Cash receipts were \$38,623.49; operating expenses were \$33,674.55, leaving a profit of \$4,948.94. On December 31, 1966, the cash balance in the Chemical Bank New York Trust Company was \$8,477.68 — well above the previous year's balance of \$3,468.38.

**Occupational Therapy — Mrs. David Reuter, Chairman**

Three university students worked in the department for two-month periods and were of great assistance. Our annual Christmas sale was more successful than ever and earned \$879.96 out of which \$700 was given to the Second Century Development Fund. The balance on hand on December 31 was \$1,228.48.

**Treasurer's Report — Mrs. Robert Freiburger**

The financial statement for the year follows.

In conclusion I would like to thank the members of the Auxiliary for their enthusiastic support in 1966, Miss Ryan for her understanding and unfailing help, and Mr. Young for his interest in our projects.

**STATEMENT OF CASH RECEIPTS AND CASH DISBURSEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 1966**

Cash Balance — January 1, 1966 .....	\$18,562.25
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**RECEIPTS:**

Receipts from Charitable Organizations and Individuals for Designated Purposes .....	\$ 6,375.00
United Hospital Fund .....	16,121.00
Greater New York Fund .....	5,430.00
Refunds from Patients .....	559.64
Dues Received .....	532.00
Interest on Savings Account .....	434.94
Gifts and Contributions .....	4,986.63
	<hr/>
Total Receipts .....	34,439.21
	<hr/>
Total Cash .....	\$53,001.46

**DISBURSEMENTS:**

Salaries .....	\$20,000.00
Office Expense .....	1,557.00
Expense of the Professional Staff .....	92.42
Medical Relief .....	3,158.41
Convalescent Care .....	6.60
Summer Therapeutic Care .....	1,497.80
Recreation of Patients .....	300.00
Library .....	600.00
	<hr/>
Total Disbursements .....	27,212.23
	<hr/>
Cash Balance — December 31, 1966 .....	\$25,789.23
	<hr/> <hr/>

Respectfully submitted,

*Brita Digby Fried*  
Brita Digby Fried



## ALKER MEMORIAL LIBRARY

To many of us in the Library, the most important — and regretted — event of 1966 was Jane Campbell Bannerman's resignation as chairman. I know that I doubted that anybody could follow adequately in her footsteps, but the influence of good leadership is as pervasive as a perfume — or a good book. It lingers. Mrs. Bannerman's aura has remained in the very well constructed organization she created and the wonderful support of the loyal and hard-working volunteers. And, of course, she has continued to contribute her energy and enthusiasm in her new capacity of co-chairman. At a party in her honor in March at the home of Mrs. Armitage Watkins, current and former Library volunteers presented Jane with a handsome collection of art books for the Library (a gift, incidentally, that doesn't begin to express our gratitude to her).

This year also saw a tribute to another former Library Chairman when a new book cart was purchased and a memorial plaque placed on it. The gift was in honor of Mrs. M. Henry Hoepli, whose death had saddened all of us, and who had contributed greatly to the earlier organization and growth of our Library.

This year we are happy to make two innovations designed to bring the Library's facilities to more people. One was the introduction of a magazine rack into the x-ray waiting room to help time pass more quickly for patients there. Since space is a problem in this area, the rack had to be especially designed and constructed for this purpose.

The other was the paperback-book library placed in the Nurses' Lounge. This puts books at the disposal of the nursing staff whose work schedules do not coincide with the hours the Library is open. From the extensive use made of this collection we are assured that the nurses are enjoying it.

I am also happy to report that an innovation of 1965 found increased popularity this year, reflected in our circulation statistics which show the growing use of reading aids. Our volunteers distribute two types. One is a reading stand that holds the book for the patient, the other is prism glasses which allow a patient to read while lying flat in bed. Fortunately contributions from friends have allowed us to purchase additional glasses, because demand has always met, and sometimes exceeded, supply. By the end of the year, we had given out 189 pairs of these glasses and almost 100 reading stands.

Three new volunteers joined us during the year but only one, Miss Elizabeth Wurzbarger, remained to work regularly on the bookcarts, but her help was especially appreciated during the summer when our volunteer staff is at a minimum.

One volunteer, Mrs. Lloyd F. Tweedy, retired from our midst for more interesting duties — taking care of a newly arrived baby son; but balancing this loss was the return of Mrs. Sophie Rothman from a trip to the West Coast.

Mrs. Leona Wilson, our librarian, had two substitutes this year: Mrs. Ruth Prodoehl during the summer months and Mrs. Dorothy Cobb in November. Both were fine replacements and





we were fortunate to have their services. And during Mrs. Robert Kohns' summer absence, Mrs. Robert Freiburger served as Librarian Treasurer.

All in all, over the year, eleven regular volunteers — an increase of two over 1965 — gave 2,300 hours of service, and more than 8,000 people — adult and child patients, and staff members — found time to read more than 18,000 books and magazines.

Our two annual sales, timed for vacation reading and Christmas buying, of books generously donated by patients, Auxiliary members, volunteers and other friends, netted us \$322.70.

These are matters for statistics, but there is one thing no number of statistics can tell us — the depth of response and appreciation we generate in those we serve. For that, we can only judge by the human contact — the grateful thanks of an elderly patient after weeks in traction; a fifteen-dollar check toward prism glasses from a woman who had used a pair and wanted more patients to benefit in this way; or a 12-year-old former patient returning with three cartons of children's book donations . . . and trying to remember which room she had occupied. These people will not forget the Patients' Library — nor will we forget them.

Books and magazines borrowed:	17,933
Prism glasses borrowed	189
Reading stands borrowed	99
People served:	7,911
Books in Library:	
January 1, 1966	6,337
December 31, 1966	6,291
Number of regular volunteers	11
Total volunteer service hours	2,236½

Respectfully submitted,

*Barbara N. Arnold*

Barbara N. Arnold  
Chairman

## STAFF PUBLICATIONS

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- BAUER, G. C. H., ed. Epidemiology of Orthopaedic Conditions. *Clin. Orthop.* 45: 3-4
- BAUER, G. C. H., JEFFRIES, G. H., Articular Chondrocalcinosis in a Case of Hemochromatosis. *Acta Med. Scand. supp.* 445: 343-439
- BURSTEIN, C. L., Fundamental Considerations In Anesthesia. 3rd Edition. Charles C. Thomas, Springfield, Illinois
- CAMPBELL, R. D. see DUNN, A.
- CARDONA, G. see FREIBERGER, R. H.
- CHYNN, K. Y., Neuroradiologic Exploration in Intra and Parasellar Conditions. *Radiol. Clin. North America* 4: 93-115, April
- CHYNN, K. Y., Heart Failure in Infancy Due to Arteriovenous Malformation of the Vein of Galen. *Am. J. Roentgen. Rad. Ther. & Nucl. Med.* 98: 653-659, Nov.
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- POSNER, A. S. see HARPER, R. A.
- POSNER, A. S. see HARPER, R. A.
- POSNER, A. S. see MULLER, S. A.
- POSNER, A. S. see TERMINE, J. D.
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## ALUMNI TEACHING AFFILIATIONS

Albany Medical College  
 University of Arkansas  
 Baylor University Medical School  
 Boston University Medical School  
 Bowman-Gray Medical School  
 \*Buenos Aires University  
 University of California  
 University of Colorado  
 Columbia University School of Physicians  
 and Surgeons  
 Cornell University Medical College  
 \*Clinica Ortopedica Dell Università,  
 Florence, Italy  
 Albert Einstein Medical School  
 George Washington University School  
 of Medicine  
 Georgetown University Medical School  
 \*University of Glasgow  
 Hahnemann Medical School  
 Harvard University  
 \*University of Hong Kong  
 Indiana University Medical School  
 University of Illinois  
 \*Lariboisiere Hospital, France  
 \*University of Liege, Belgium  
 University of Louisville School of Medicine  
 University of Maryland School of Medicine  
 \*McGill University Medical School  
 \*Meharry University, Canada  
 Marquette University  
 University of Nebraska Medical School  
 New Jersey College of Medicine  
 New York Medical College  
 New York Polyclinic Medical School  
 New York State Medical School  
 New York University

Ohio University Medical School  
 University of Oklahoma  
 University of Oregon  
 \*National University of Paraguay  
 University of Pennsylvania  
 \*Queens University, Canada  
 University of Rochester  
 St. Louis Medical School  
 University of Pittsburgh  
 St. Louis University School of Medicine  
 San Diego Hospital and Medical Center  
 University of Southern California  
 University of Southern California Dental School  
 \*Southland Hospital, South Africa  
 Stanford University Medical School  
 State University of New York School of Dentistry  
 Temple University Medical School  
 Southwest Texas State College  
 University of Texas  
 \*Medical School in Thailand  
 \*University of Toronto  
 Tufts University School of Medicine  
 Tulane University  
 U C L A  
 University of Utah  
 Vanderbilt University School of Medicine  
 Washington University  
 University of Washington School of Medicine  
 Wayne State University  
 Western Reserve University Medical School  
 \*University of Witwatersand, South Africa  
 Yale University Medical School  
 \*Yonsei University Medical College in Korea  
 \*University of Zurich

\*Foreign





## GIFTS AND ENDOWED BEDS

Agnew, A. C.  
 Agnew, Alexander McL. — in memoriam  
 Agnew, George B.  
 Agnew, John T.  
 Alumni Association  
 Andriesse, Elisabeth Spanjaard, Fund  
 Art Fund  
 Arthritis Relief Fund  
 Arthritis and Rheumatism Foundation  
 (Fund for Hospitalization)  
 Arthritis and Rheumatism Foundation Grant  
 Atomic Energy Commission Grants  
 Avery, Mary O., Fund  
 Avery, Mary P. — in memory of her son,  
 Henry Ogden Avery  
 Baird, Josephine B., Fund No. 1  
 Baird Rehabilitation Study Fund  
 Ballard, Edward L., Grant  
 Barth Fund for Work in Scleroderma  
 Barth, Tina — in memory of  
 Becker, Cornelia D., Fund — in memory of  
 Mary T. Becker and Joseph Becker  
 Bishop, Mrs. David Wolfe — in memory of her  
 husband, David Wolfe Bishop  
 Bliss Fund — gift of Mrs. George Bliss  
 Bliss, George — in memory of his daughter,  
 Netta Bolton Bliss  
 Bonnell, Florence K. — for Marie E. Hampton  
 Bowdoin, George — for the children of the  
 Children's Aid Society  
 Brooks, Walter, Foundation Fund  
 Brown, Mrs. Ann D. — in memory of  
 Annie V. Brown  
 Brown, Mrs. George Hunter — in memory of  
 her daughter, Millie Brown  
 Brown, Margaret J., Orthopedic Bed  
 Bullinger, Elizabeth T., Beds  
 Bullinger, Elizabeth T. — Fund  
 Bullinger, Robert E.  
 B.P.O. Elks, New York Lodge No. 1  
 Children's Recreation Fund  
 Clark Film Library Fund  
 Clark, Marian de Forest — to be known as the  
 "Julian Bouton Clark Bed"  
 Clubfoot Clinic Fund  
 Cobb, John R. — Scoliosis Research Fund  
 Coley, William D. — in memory of  
 Curran, Elise Postley — in memory of  
 James Ross Curran  
 Currier, Edward West — in memory of  
 Nathaniel Currier  
 Currier, Edward West — in memory of  
 Eliza W. Currier  
 Currier, Edward West — in memory of  
 West Currier

Currier, Edward West — in memory of  
 Edward W. Currier  
 Currier, Estate of Laura — in memory of  
 Walter B. Currier  
 Davidson, Eleanor H., Fund  
 DeBarbieri, Margaret K. Beiter, Fund  
 DeBruce Property Renovation  
 Dellinger, Mary A. — in memory of her niece,  
 Lulie Dexter  
 Development Work in Cerebral Palsy  
 Dubrin, Yetta, Fund  
 Ehrenreich, Minnie M., Fund  
 Eichner, Benjamin B., Fund  
 Eidlitz, Otto M., Memorial Bed  
 Eidlitz, Robert James — to be known as the  
 "Marc Eidlitz Bed"  
 Elms, Mrs. Leonard, Flower Fund  
 Employees' Activities Fund  
 Eustis, Marie C. — in memory of  
 George C. Eustis  
 Farrar, Mrs. Sarah J. — in memory of her father  
 and mother, Horace and Sarah J. Theall  
 Field and Bishop Cortland de Peyster, and  
 Florence Van Cortland — in memory of  
 Mary E. de Peyster  
 Finch, Henry L. — in devoted and loving  
 memory of his father and mother,  
 Edward L. and Annie R. Finch  
 Ford Foundation Scholarship and Fellowship  
 Fund  
 Fraser, Mrs. Anna M. — in memory of her  
 father and mother, Hansen K. and  
 Emma B. Corning  
 Frelich, Mary Helen — in memory of  
 her daughter, Helen Frelich  
 Friendship Hall Fund  
 Fromkin, Robert G., Fund for Research in  
 Connective Tissue Diseases  
 Fund for Adult Motion Picture Entertainment  
 Fund for Annual Dance  
 Fund for Clinic Coffee Cart  
 Fund for Cerebral Palsy Research  
 Fund for Development of Work  
 in Cerebral Palsy  
 Fund for Equipment for Neuro-Muscular Study  
 Fund for Fellowship in Social Work  
 Fund for Maintenance of Solarium  
 Fund for Research in Rheumatic Diseases  
 Fund for Special Equipment  
 Fund for Treatment of Hernia Cases  
 (The Delong Corporation)  
 Fund in Memory of Dr. William B. Coley,  
 received from William Bingham II  
 Gambrell, Anna Van Nest — in memory of  
 Mary Thompson Van Nest

Garland, Anne Louise Fund — in memory of:  
 Robert Emmet, Jr.  
 Thomas Addis Emmet  
 Tudor Garland  
 Hamilton Garland  
 Elizabeth Garland  
 James A. G. Emmet  
 James A. Garland  
 Charles Garland  
 Aileen Emmet  
 Hope Garland  
 Geographic Full-Time Fund  
 Gibson, W. Fraser, for the "Jeanette Fraser  
 Gibson Bed"  
 Gibney Memorial Fund  
 Gifford, Mrs. Ellen M., in memory of  
 Mrs. Ellen M. Gifford  
 Golding, Sue, Social Service Scholarship  
 Fund  
 Greenwall, Susan, Fund  
 Griswold, Mrs. Lydia Alley, in memory of her  
 husband, George Griswold  
 Hardware Square Club of New York  
 Harnett, Katherine I. D. — in memory of  
 Tommie S. Donald  
 Hilson Discretionary Fund  
 Hopkins, John Jay, Foundation Grant  
 Hurst, Thomas D. and Kate Fund  
 Istel Social Welfare Fund (formerly Social  
 Service Transportation Fund)  
 Janeway, Fannie, Memorial Fund  
 Keller, F. Wilson, Memorial Fund  
 Killough, Walter, H. D. — in memory of  
 Walter H. D. Killough  
 Knight, James, M.D. — in memory of  
 James Knight, M.D.  
 Kreisler, Harriet, Fund  
 Krumb, Henry, Fund  
 Lewis, Louise, Memorial Bed  
 Logotheton Student Fund  
 Lilly, Eli & Co., Grant  
 Lyric Art Society — Marie T. Schaefer  
 McCaffrey, John B.  
 Manners, Francis L. Whittlessey — The  
 Franklin Whittlessey Memorial Bed  
 Manners, Francis L. Whittlessey — in memory  
 of Hannah Roe Whittlessey  
 Martin, Janie A. — in memory of  
 Martin, Walter A.  
 Medical Library Fund  
 Mitchell, Minturn Arthur — in memory of  
 Roland Greene and Cornelia Port Mitchell  
 Miller, Alexander, Jr.  
 Miller, Annie — in memory of Cecil Miller  
 Miller, Harriet Thompson  
 Montgomery, Andrew H., Memorial Fund

More, Majorie Veith, Memorial Fund  
 Multiple Sclerosis Fund  
 National Dairy Council Grants  
 Neute, Josephine L. — in memory of  
 Emily P. Munn  
 Neute, Josephine L. — in memory of  
 Jessie B. Brown  
 New York City, Research Investigatorship  
 Nurses' Alumnae Fund  
 Nurses' Library Fund  
 Nursing Study Fund (Mary W. Harriman Trust)  
 Nursing Study Fund  
 Odum-Cochran Foundation Fund  
 Partridge, Franklin L. — in memory of  
 Grace Partridge, Endowed by her mother  
 Paton, Annie A. — in memory of  
 Alexander McL. Agnew  
 Patterson's, Dr., Discretionary Fund  
 Phillips, Henry Lewis and Gertrude Abbot,  
 Fund  
 Pillsbury, Annette Ellsworth — in memory of  
 her parents and sister  
 Pocher, Barbara Ellenbast — in memory of  
 Frank Ellenbast  
 Polachek, John, Foundation Grant  
 Potter, Orlando B., Fund  
 President's Discretionary Fund  
 Ranney, Marie Celle — in memory of  
 Marie Celle Ranney  
 Rashmajian, Harry — Fund  
 Rathbone Fund (The)  
 Regalado, Martita — Fund for Nursing  
 Education  
 Religious Flower Fund  
 Reynolds, Martha S. — in memory of her  
 mother, Ernestine Schaffner  
 Robbins, Blanche Stern  
 Roche, Edward and Ellen, Relief Foundation  
 Fund  
 Rockefeller Foundation Grant  
 Romeyn, Hiram Radcliff — endowed by his  
 wife, Grace W. Romeyn  
 Rotary Club of New York  
 Routh, Joseph P. — Fund for Research in  
 Arthritis and Paget's Disease  
 Russell Sage Dental Endowment Fund  
 Satterwhite, Florence C. — in memory of  
 James E. Martin, Jr., Preston C. Satterwhite,  
 Florence C. Satterwhite  
 Schomburg Fund for Care of Crippled  
 Schoonmaker, Emma W. — in memory of  
 Emma W. and Jacob H. Schoonmaker  
 Schweckendieck, Edith M., Fund  
 Secor, Mary E., Fund  
 Semi-Centennial Memorial Fund — Seybold,  
 Paulina — in memory of Paulina Seybold



Sharp, Evelyn — Equipment Fund for Home Assistance  
Sharp, Evelyn — Kitchen Food Supply Fund  
Shearer, George L., by his family and friends  
Sloane, William, Fund  
Social Service Relief Fund  
Starin, Priscilla T. P. — in memory of Ramson Parker  
Starin, Priscilla T. P. — in memory of Mary Dick Parker  
Stephens, Richmond, Memorial Fund  
Stern, Adele, Fund  
Straub's, Dr., Fund for Hand Clinic  
Sturges, Frederick M., Jr., Fund  
Taylor, Charles Fayette, Memorial Fund  
Taylor, Dr. Henry Ling — in memory of Charles Fayette Taylor  
Thayer, Jessica Haddington, Fund  
Thompson's, Dr., Discretionary Fund  
Thorne, Lydia Ann — in memory of Lydia Ann Thorne  
Thorne, Phoebe Ann  
Tillotson, Emma L. — in memory of Millard Glenn Tillotson  
Tindale, Robert, Florence and Sarah  
Tower, Joseph T. — in memory of Mary T. Tower  
Van Tine, Grace — in memory of her deceased children, Grace Van Tine and Adelaide Van Tine  
Wagner, Dr. Lewis Clark, Alumni Residents' Fund  
Wainerdi's Dr., Harold R., Fund for Multiple Sclerosis  
Wall, W. W. — in memory of Louis Eugene Wall  
Watson, Emily A. — in memory of John Watson  
Watson, Emily A. — in memory of Marcy L. Watson  
Watson, Emily A. — in memory of Mary J. Walker  
Weedon, Eva A. Fund  
Wendel, Georgina G. R. — in memory of her sister Augusta Wendel  
Wendel, Georgina G. R. — in memory of Josephine Wendel  
Wilson, Philip D., Fellowship Fund  
Wilson's, Dr. Philip D., Surgical Research Fund (various contributors)  
Witherell, Eli, Fund  
Witherell, Rebecca, Endowed Bed  
Witherell, Rebecca, Open Air Fund  
Woolworth, Velma B., Fund — in tribute to the memory and generosity of H. Sylvia, A. H. G. Wilks and Ella Van E. Wendel  
Whitney, Helen Hay, Foundation Grant  
X-Ray Education Fund



## 1965-1966

### COMPARATIVE STATISTICS

	1966	1965
Total Patient Days .....	61,617	62,595
Total Clinic Visits .....	43,968	52,544
Per Cent of Occupancy .....	84.83	86.18
Admissions .....	3,021	3,080
Laboratory Tests .....	93,053	92,040
X-Ray Films Made .....	89,926	82,567
Drug Prescriptions Filled .....	74,771	77,149
Operations .....	2,248	2,197
Average Length of Stay (Days) .....	21	21
Meals Served .....	184,920	185,810
Total Number of Volunteers .....	193	204
Hours Donated by Volunteers .....	19,521 <sup>1/2</sup>	21,210
Physical Medicine Treatments .....	28,976	35,780
Total Number of Employees .....	752	733

### SUMMARY OF PATIENTS

#### Out-Patient Department

First Visits .....	4,597	5,510
Revisits .....	39,371	47,034
Total .....	43,968	52,544

#### In-Patients

#### Ward

	Private	Semi-Private	Associated Hospital Compensation Pay and Part Pay	Public Charges	Ward Free	Total Ward	Total
Remaining January 1, 1966 .....	17	62	36	20	1	57	136
Admitted in 1966 .....	464	1715	668	316	11	995	3174
(Incl. Transf. in)							
Total Treated in 1966 .....	481	1777	704	336	12	1052	3310
Discharged (Incl. Transf. out) .....	463	1699	666	314	10	990	3152
Deaths .....	4	11	4	0	0	4	19
Total Discharged .....	467	1710	670	314	10	994	3171
Remaining December 31, 1966 .....	14	67	34	22	2	58	139







## AUDITORS' OPINION

To the Board of Managers  
New York Society for the Relief of the Ruptured and  
Crippled, Maintaining the Hospital for Special  
Surgery and the Margaret M. Caspary Clinic  
New York, New York 10017

We have examined the balance sheet of the New York Society for the Relief of the Ruptured and Crippled, Maintaining the Hospital for Special Surgery and the Margaret M. Caspary Clinic as of December 31, 1966, and the related statement of changes in fund balances and statement of income and expense for the year then ended. Our examination was made in conformity with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

All securities owned by the Society at December 31, 1966, were held by the United States Trust Co. as custodian, and income from interest, dividends and rents for the year under review are stated as shown in the records of the custodian.

In our opinion, subject to the foregoing, the accompanying balance sheet, statement of changes in fund balances and statement of income and expense, together with footnotes, fairly present the financial position of the Society at December 31, 1966 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

MacNICOL, JOHNSON & CO.

New York, N.Y.  
May 29, 1967

# COMPARATIVE BALANCE SHEET AS A

	December 31, 1966		December 31, 1965	
ASSETS				
<b>Operating Fund</b>				
Cash in banks and office .....	\$ 129,857.64		\$ 50,903.4	
Patients' accounts receivable .....	\$1,106,818.90		\$ 861,088.02	
Less: allowance for uncollectable accounts .....	205,877.59	900,941.31	208,733.59	652,354.4
Due from Blue Cross plans .....	49,689.03			160,739.7
Due from Medicare .....	36,176.13			—
Loans receivable .....	111,430.00			91,150.0
Miscellaneous accounts receivable .....	21,942.60			13,499.0
Inventory of materials and supplies .....	115,507.82			106,947.9
Prepaid insurance .....	16,156.52			27,297.1
Deferred expenses .....	91,687.94			126,623.1
<b>Total</b> .....	1,473,388.99			1,229,514.9
<b>Investment Fund</b>				
Cash in commercial and savings banks .....	65,862.28			194,990.9
Investments (market value Dec. 31, 1966 — \$5,238,939.94) ....	3,503,377.58			3,878,317.1
Real estate taxes receivable .....	21,224.50			—
<b>Total</b> .....	3,590,464.36			4,073,308.0
<b>Permanent Funds</b>				
Cash in commercial and savings banks .....	9,561.45			-334,454.2
Investments (market value Dec. 31, 1966 — \$2,344,756.23) ....	2,097,283.29			2,015,310.8
<b>Total</b> .....	2,106,844.74			2,349,765.0
<b>Temporary Funds for Designated Purposes</b>				
Cash in commercial and savings banks .....	217,253.82			342,621.0
Research grants receivable .....	370,026.32			319,210.9
Investments (market value Dec. 31, 1966 — \$2,208,712.28) ....	2,015,113.40			1,279,202.4
Due from investment fund .....	162,816.97			201,650.5
Due from operating fund .....	241,336.07			—
Deferred expenses .....	—			13,897.7
<b>Total</b> .....	3,006,546.58			2,156,582.7
<b>Plant Fund</b>				
Hospital properties and equipment				
Cost .....	7,626,861.54		7,455,852.30	
Less: accumulated depreciation .....	1,967,633.23	5,659,228.31	1,763,276.69	5,692,575.6
Research building and equipment				
Cost .....	4,325,559.01		3,782,604.61	
Less: accumulated depreciation .....	710,795.24	3,614,763.77	546,357.91	3,236,246.7
Other real estate and equipment				
Cost .....	1,670,405.08		1,620,405.08	
Less: accumulated depreciation .....	194,066.05	1,476,339.03	132,060.42	1,488,344.6
<b>Total</b> .....	10,750,331.11			10,417,166.9
Construction in progress .....	21,780.42			223,197.2
Due from temporary funds for designated purposes .....	696,057.38			547,843.2
<b>Total</b> .....	11,468,168.91			11,188,207.4
<b>TOTAL ASSETS</b> .....	\$21,645,413.58			20,997,378.1



DECEMBER 31, 1966 AND DECEMBER 31, 1965

	December 31, 1966	December 31, 1965
<b>LIABILITIES, CAPITAL AND SURPLUS</b>		
<b>Operating Fund</b>		
Accounts payable .....	\$ 138,289.54	\$ 147,664.06
Accrued salaries payable .....	79,988.51	57,379.00
Taxes payable .....	44,377.11	52,971.31
Sundry liabilities .....	29,920.58	76,670.14
Unexpended balances of special funds .....	55,029.28	86,289.75
Reserve for insurance premium adjustments .....	36,000.00	36,000.00
Due to temporary funds for designated purposes .....	241,336.07	—
<b>Total</b> .....	<u>624,941.09</u>	<u>456,974.26</u>
Working capital .....	848,447.90	772,540.65
<b>Total</b> .....	<u>1,473,388.99</u>	<u>1,229,514.91</u>
<b>Investment Fund</b>		
Investment fund principal .....	3,427,647.39	3,871,657.54
Due to temporary funds for designated purposes .....	162,816.97	201,650.55
<b>Total</b> .....	<u>3,590,464.36</u>	<u>4,073,308.09</u>
<b>Permanent Funds</b>		
Principal — unrestricted as to use of income .....	323,663.35	319,360.25
Principal — restricted as to use of income .....	1,732,189.41	1,985,051.93
Unexpended balance of restricted income .....	50,991.98	45,352.87
<b>Total</b> .....	<u>2,106,844.74</u>	<u>2,349,765.05</u>
<b>Temporary Funds for Designated Purposes</b>		
Unappropriated principal .....	2,305,798.24	1,603,999.99
Unappropriated income balance .....	4,330.96	4,379.54
Deferred credits .....	360.00	360.00
Due to plant fund .....	696,057.38	547,843.21
<b>Total</b> .....	<u>3,006,546.58</u>	<u>2,156,582.74</u>
<b>Plant Fund</b>		
Accounts payable .....	12,057.33	60,444.22
Retained fees payable — contractors .....	1,226.47	17,410.90
Loans payable .....	319,351.46	319,351.46
Mortgage payable .....	—	144,400.00
Plant capital .....	11,135,533.65	10,646,600.82
<b>Total</b> .....	<u>11,468,168.91</u>	<u>11,188,207.40</u>
<b>TOTAL LIABILITIES, CAPITAL AND SURPLUS</b> .....	<u>\$21,645,413.58</u>	<u>\$20,997,378.19</u>

Note:

No determination has yet been made with respect to any retroactive rate adjustments which may be due from the Associated Hospital Service of New York, as Medicare intermediary and Blue Cross plans, for services to patients covered by these plans who were admitted during 1966. Therefore, the amounts due from Blue Cross plans and due from Medicare, as shown in the foregoing statement, do not include any accruals of additional amounts applicable to 1966 which may be received in 1967.

## 1864-1966 OFFICERS OF THE SOCIETY

### PRESIDENTS

(Dates Inclusive)

Green, John C. ....	1864-1874
Brown, Stewart ....	1875-1879
Willets, Samuel ....	1880-1883
Macy, William H. ....	1883-1887
Osborn, William H. ....	1887-1890
Isham, William B. ....	1891-1901
Sturges, Frederick ....	1901-1910
Osborn, William Church ....	1910-1925
Melcher, John S. ....	1926-1928
Osborn, William Church— Acting President ....	1928-1930
Osborn, William Church ....	1931-1937
Osborn, William Church— President Emeritus ....	1938-1951
Rossiter, Arthur W. ....	1938-1948
Duryee, Samuel S. ....	1948-1958
Bastedo, Philip ....	1958-

### CHAIRMAN OF THE EXECUTIVE COMMITTEE

Miller, Lawrence McK. ....	1956-
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### VICE-PRESIDENTS

(Dates Inclusive)

Minturn, Robert B. ....	1864-1865
Brown, Stewart ....	1864-1874
Lenox, James ....	1864-1879
Wetmore, A. R. ....	1864-1880
Wolfe, John David ....	1864-1872
Griswold, George ....	1866-1875
Willets, Samuel ....	1873-1879
Corning, H. K. ....	1875-1877
Macy, William H. ....	1876-1882
Terbell, Henry ....	1878-1887
Hoe, Robert ....	1880-1883
Colgate, Robert ....	1880-1884
Osborn, William H. ....	1881-1886
Potter, Orlando ....	1883-1893
Iselin, Adrian ....	1884-1904
Isham, William B. ....	1885-1890 1905-1908
Agnew, Alexander L. ....	1887-1890
Webb, William H. ....	1888-1894
Kingland, William M. ....	1892-1904
Thorne, Samuel ....	1892-1905
Kennedy, John S. ....	1894-1908
Bliss, George ....	1895
Willets, John T. ....	1897-1911
Stearns, John Noble ....	1906
Wing, John D. ....	1905-1909

Macy, William H., Jr. ....	1908-1912
Sloane, William ....	1912-1916
Iselin, Ernest ....	1931-1951
Brown, Vernon Carleton ....	1935-1944
Wing, Morgan ....	1937-1948
Thieriot, Charles H. ....	1940
Wilmerding, Lucius ....	1941-1949
Duryee, Samuel S. ....	1945-1948
Wing, Morgan, Jr. ....	1948-1952
Miller, Lawrence McK. ....	1949-1956
Finch, Henry L. ....	1949-1956
Symington, Charles J. ....	1951-1955
Pillot, Andre P. ....	1952-1958
Fletcher, Mrs. Walter D. ....	1955-1965
Reynolds, Mrs. John H. ....	1956-
Noel, Louis W. ....	1956-1966
Hilson, Mrs. Edwin I. ....	1957-
Stevenson, T. Kennedy ....	1958-1963
Rawle, Marshall ....	1964-

### ADMINISTRATIVE VICE PRESIDENT

Young, T. Gordon ....	1966-
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### TREASURERS

(Dates Inclusive)

Sturges, Jonathan ....	1864-1874
Sturges, Frederick ....	1875-1906
Melcher, John S. ....	1907-1925
Shearer, George L. ....	1926-1946
Stewart, Wm. A. W. ....	1946-1955
Stewart, E. Sheldon ....	1955-1965
Dyson, Charles H. ....	1965-

### ASSISTANT TREASURERS

Hoguet, Robert L., Jr. ....	1956-1963
Dyson, Charles H. ....	1964-1965
Harris, Henry U. ....	1965-
O'Neill, James D. ....	1966-

### CORRESPONDING SECRETARIES

Hartley, Robert M. ....	1864-1871
Swan, Otis D. ....	1872-1876
Abbe, George W. ....	1877-1878
Stewart, W. A. W. ....	1879-1887
Stetson, Francis Lynde ....	1888-1889
Sturges, William C. ....	1890-1896
Jennings, Walter ....	1897
Stearns, John Noble ....	1924-1930
Eyre, Edgar Ainsworth ....	1931-1935
Finch, Henry L. ....	1936-1949
Townsend, Reginald T. ....	1949-1956
Hilson, Mrs. Edwin I. ....	1957-1958
Osborn, William H., Jr. ....	1958-

### RECORDING SECRETARIES

Collins, Joseph 8. ....	1864-1867
Swan, Otis D. ....	1868-1871
Hartley, Robert M. ....	1872-1875
Warburton, A. F. ....	1876-1878
Abbe, George W. ....	1879
Townsend, John P. ....	1880-1897
Eyre, Edgar Ainsworth ....	1924-1930
Miller, Lawrence McK. ....	1931-1949
Melcher, John ....	1949-1956

### CORRESPONDING SECRETARIES AND RECORDING SECRETARIES

Jennings, Walter ....	1898-1899
Osborn, William Church ....	1900-1909
Stearns, John Noble ....	1910-1923

### SECRETARIES

Melcher, John ....	1956
Rawle, Marshall ....	1957-1964
Osborn, William H., Jr. ....	1964-

## 1864-1966 BOARD OF MANAGERS

(Dates Inclusive)

Ahhe, George W. ....	1864-1879
Agnew, Alexander McL. ....	1876-1890
Amory, Jr., Mrs. Harcourt ....	1966-
Bastedo, Philip ....	1955-
Beekman, James W. ....	1864-1865 1868-1870
Billings, Frederick ....	1888-1899
Bishop, David Wolfe ....	1882-1899
Bishop, Nathan ....	1864-1867
Bliss, George ....	1887-1895
Bliss, Walter ....	1911-1922
Bonner, Robert ....	1879-1881
Booth, William A. ....	1864-1865
Bradford, William H. ....	1878-1895
Brock, Mrs. Horace ....	1966-
Brown, Stewart ....	1864-1879
Brown, Vernon C. ....	1931-1944
Cabot, F. Higginson ....	1926-1928
Caswell, John ....	1866-1867
Chapin, L. H. Paul ....	1931-1935
Church, John A. ....	1940-1941
Clark, C. C. ....	1888-1899
Clark, Jr., George C. ....	1906-1909
Colgate, Charles ....	1872-1877
Colgate, R. R. ....	1908-1921
Colgate, Robert ....	1869-1884
Collins, Joseph 8. ....	1864-1867
Cooper, Peter ....	1868-1870
Corning, H. K. ....	1866-1877



Davison, F. Trubee .....1923-1924  
 Davison, H. P. ....1912-1921  
 Denny, Thomas .....1864-1875  
 DePew, Chauncey M. ....1897-1901  
 Draper, William H. ....1897-1900  
 Drexel, III, Mrs. John R. ....1959-1961  
 Duryee, Samuel S. ....1940-1961  
 Dyson, Charles H. ....1959-  
 Elliott, Howard .....1920-1928  
 Eyre, Edgar Ainsworth .....1923-1935  
 .....1945-1955  
 Fancher, Enoch L. ....1864-1865  
 Finch, Henry L. ....1920-1960  
 Fiske, Josiah M. ....1879-1881  
 Fletcher, Walter D. ....1941  
 Fletcher, Mrs. Walter D. ....1950-1965  
 Ford, Mrs. Anne McDonnell .....1966-  
 Fried, Mrs. Walter J. ....1962-  
 Gibson, W. Frazer .....1931-1937  
 Gilman, William C. ....1864-1871  
 Gillespie, S. Hazard .....1955-1959  
 .....1961-  
 Golding, Jerrold R. ....1953-1967  
 Green, John C. ....1864-1874  
 Griswold, George .....1864-1875  
 Hagaman, Frederick P. ....1957-1962  
 Handy, Parker .....1874-1876  
 Harris, Jr., Henry U. ....1961  
 Hartley, Robert M. ....1864-1875  
 Hartshorn, Dr. W. Morgan .....1941-1955  
 Harvey, Alexander D. ....1957-1965  
 Hay, Louis C. ....1929-1938  
 Hayes, R. Somers .....1901-1904  
 Hilson, Edwin I. ....1951-1952  
 Hilson, Mrs. Edwin I. ....1952-  
 Hoe, Robert .....1878-1883  
 Hoffman, Samuel V. ....1873  
 Hoepli, Mrs. M. Henry .....1958-1962  
 Hoffman, William B. ....1887-1880  
 Hogue, Dr. Joseph P. ....1931-1946  
 Hogue, Jr., Robert L. ....1953-  
 Holbrook, Mrs. John .....1962-  
 Hoppin, William W. ....1936-1948  
 Hutton, Mrs. Edward F. ....1955-1959  
 Iselin, Adrian .....1881-1904  
 Iselin, Jr., Adrian .....1902-1928  
 Iselin, Ernest .....1929-1951  
 Isham, William B. ....1880-1908  
 Jackson, William H. ....1953-1955  
 Jaffrey, Edward S. ....1866-1877  
 Jennings, Walter .....1892-1899  
 Kellogg, James C., III .....1964-  
 Kennedy, John S. ....1890-1908  
 Kingsland, William M. ....1877-1904  
 Knapp, Theodore J. ....1943-1947  
 Lapham, Lewis A. ....1955-1957  
 Lawrence, Effingham .....1939-1940

Lawrence, James F. ....1964-  
 Lenox, James .....1864-1879  
 Livingston, John C. ....1908-1914  
 McLane, Guy R. ....1906-1911  
 .....1914-1920  
 Macy, William H. ....1871-1886  
 Macy, Jr., William H. ....1892-1912  
 Magoun, George C. ....1886-1891  
 Melcher, John .....1926-1956  
 Melcher, John S. ....1906-1927  
 Miller, Charles A. ....1894-1897  
 Miller, Lawrence McK. ....1926-  
 Minturn, Robert B. ....1864-1865  
 Mixter, David M. ....1960-  
 Moore, William S. ....1938-1940  
 Morgan, Hon. Edwin D. ....1880-1881  
 Noel, Louis, W. ....1936-1966  
 Osborn, A. Perry .....1941-1951  
 Osborn, Frederick H. ....1913-1928  
 Osborn, William Church .....1892-1951  
 Osborn, Earl D. ....1951-1963  
 Osborn, William H. ....1871-1891  
 Osborn, Jr., William H. ....1957-  
 Parsons, Henry I. ....1908-1912  
 Pennoyer, Paul G. ....1955-1957  
 Pierson, Dr. Richard N. ....1957-1963  
 Pillot, Andre P. ....1941-1958  
 Pool, Beekman H. ....1948-1950  
 Potter, Frederick .....1910-1916  
 Potter, Orlando .....1921-1924  
 Potter, Orlando B. ....1875-1893  
 Prentice, Robert Kelly .....1906-1958  
 Pruyn, Erving .....1931-1942  
 Quincy, John W. ....1864-1870  
 Rawle, Marshall .....1955-  
 Redmond, Geraldyn .....1907-1918  
 Redmond, Roland S. ....1919-1924  
 Reynolds, Mrs. John H. ....1949-  
 Robbins, Chandler .....1876-1887  
 Rockefeller, William A. ....1923-1930  
 Rogers, Francis Day .....1961-1966  
 Rossiter, Arthur W. ....1921-1950  
 Scoville, Robert .....1931-1934  
 Shearer, George L. ....1921-1946  
 Simmons, Frank Hunter .....1917-1927  
 .....1929-1930  
 Sloane, William .....1900-1916  
 Smith, S. Sidney .....1900-1921  
 Sterns, John Noble .....1889-1906  
 Stearns, John N. ....1902-1908  
 .....1909-1936  
 Sterns, Jr., John N. ....1919-1930  
 Stetson, Francis Lynde .....1888-1889  
 Stevenson, T. Kennedy .....1949-1965  
 Stewart, E. Sheldon .....1947-1965  
 Stewart, W. A. W. ....1879-1887  
 Stewart, Wm. A. W. ....1946-1955

Stout, Francis A. ....1883-1888  
 Straus, Kenneth H. ....1966-  
 Straus, Nathan, III .....1950-1958  
 Stuart, Robert L. ....1871-1873  
 Sturges, Arthur P. ....1897-1909  
 Sturges, Frederick .....1871-1909  
 Sturges, Frederick .....1931-1935  
 Sturges, Jonathan .....1864-1874  
 Sturges, William C. ....1885-1896  
 Swan, Otis D. ....1866-1876  
 Symington, Charles J. ....1941-1955  
 Terbell, Henry S. ....1864-1887  
 Thieriot, Charles H. ....1936-1940  
 Thieriot, Charles H. ....1965-  
 Thorne, Samuel .....1880-1905  
 Tompkins, B. A. ....1952-1955  
 Townsend, John P. ....1876-1897  
 Townsend, Reginald T. ....1944-1957  
 Trumbull, Frank .....1913-1919  
 Vanderbilt, Cornelius .....1881-1895  
 VanRensselaer, Alex .....1874-1878  
 Wall, Albert Carey .....1957-1960  
 Warburton, A. F. ....1876-1878  
 Webb, H. Walter .....1893-1898  
 Webb, William H. ....1882-1894  
 Wetmore, A. R. ....1864-1880  
 Whitman, Dr. Royal .....1932-1934  
 Willets, Howard .....1913-1928  
 Willets, John T. ....1866-1911  
 Willets, Samuel .....1868-1882  
 Wilmerding, Lucius .....1935-1949  
 Wing, John D. ....1896-1909  
 Wing, J. Morgan .....1912-1928  
 Wing, Morgan .....1921-1950  
 Wing, Jr., Morgan .....1946-1953  
 Witter, Jr., Dean .....1959-1966  
 Witthaus, Rudolph A. ....1864  
 Wolfe, John David .....1864-1872  
 Wood, Oliver .....1864-1868  
 .....and 1870  
 Wriston, Walter B. ....1958-  
 Young, T. Gordon .....1966-

#### ADVISORY COUNCIL

Duryee, Samuel S. ....1961-  
 Eyre, Edgar Ainsworth .....1955-1962  
 Fletcher, Mrs. Walter D. ....1965-  
 Hartshorn, Dr. W. Morgan .....1955-1956  
 Harvey, Alexander D. ....1965-  
 Osborn, Earl D. ....1964-  
 Pierson, Richard N., M.D. ....1964-  
 Pillot, Andre P. ....1958-1963  
 Stevenson, T. Kennedy .....1965-  
 Stewart, E. Sheldon .....1965-  
 Stewart, William A. W. ....1955-1960  
 Symington, Charles J. ....1955-  
 Tompkins, B. A. ....1962-  
 Townsend, Reginald T. ....1957-



## THE HOSPITAL FOR SPECIAL SURGERY

*is affiliated with*

The New York Hospital and Cornell University

*is a member of*

The American Hospital Association

The Hospital Association of New York State

The Greater New York Hospital Association

The United Hospital Fund

The Greater New York Fund

*is accredited by*

The Joint Commission on Accreditation of Hospitals

The Council on Medical Education and Hospitals of

the American Medical Association for

Resident Training in Orthopedic Surgery

*is registered by*

Department of Health, Education and Welfare

*participates in*

The International Education Exchange Visitors

Program in the United States Department of State

All photos not individually  
credited are by Carole Thomas

Miss Thomas, 25, is an HSS discovery: her photographs in last year's annual report represented her first professional assignment. A protégée of W. Eugene Smith, whose pictures have been featured in Life magazine, her career has included designing theatrical sets and costumes in the United States and books here and in Japan.